



**US Army Corps
of Engineers**
HUNTSVILLE ENGINEERING
AND SUPPORT CENTER

DRAFT

Defense Environmental Restoration Program
for
Formerly Used Defense Sites

Ordnance and Explosives

ARCHIVES SEARCH REPORT

FINDINGS

EPHRATA PATTERN BOMBING RANGE No. 4

DOUGLAS COUNTY, WA

PROJECT No. F10WA057901

SEPTEMBER 2002

Prepared by
US ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

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1.0 INTRODUCTION

1.1 Authority

In 1986, Congress established the Defense Environmental Restoration Program (DERP) at 10 U.S.C. 2701 et. seq. This program directed the Secretary of Defense to "carry out a program of environmental restoration at facilities under the jurisdiction of the Secretary."

In March 1990, the EPA issued a revised National Contingency Plan. Under 40 C.F.R. 300.120, EPA designated DoD to be the removal response authority for incidents involving DoD military weapons and munitions under the jurisdiction, custody and control of DoD.

Since the beginning of this program, the U.S. Army Corps of Engineers has been the agency responsible for environmental restoration at Formerly Used Defense Sites (FUDS). Since 1990, the U.S. Army Engineering and Support Center, Huntsville, has been the Center of Expertise (CX) and Design Center for Ordnance and Explosives.

1.2 Subject

Ephrata Pattern Bombing Range No. 4, DERP-FUDS OE Project No. F10WA057901, was established to provide a bombing practice range for the U.S. Army 2nd Air Force assigned to the Ephrata Army Air Field (AAF), Ephrata, Washington. Ephrata AAF, active from 1942 to 1945, was initially a training facility for B-17 and B-24 bomber crews (June 1942 thru December 1943). In February 1943 a request was made for approval of a pattern bombing range to support training. Later from December 1943 thru April 1944, the airfield was on standby status and designated as a sub-port of McChord AAF, which was located near Tacoma, Washington. It was then reactivated for 4th Air Force fighter pilot training in P-38, P-39 and P-63 aircraft. This mission continued until February 1945, when the base was again returned to stand-by status under McChord. In July and August 1945, Ephrata AAF was briefly re-activated for 4th Air Force B-24 bomber crew training and then returned to stand-by status. The subject former bombing range, consisting of 2,460.12 acres leased from private owners, the State of Washington, and Douglas County, is located approximately 20 miles north of Ephrata. The site is high desert land, which is flat, open and treeless, and was in use for crops and livestock grazing at the time of acquisition. The leases were terminated in September and October of 1946 and the land was returned to the private owners. The site location is shown on **Figure 1 (Plate 1)**, and the Site Layout and Aerial Photo Site Maps are presented as **Plates 2 and 3**, respectively.

1.3 Purpose

This Archives Search Report (ASR) compiles information obtained through historical research at various archives and records holding facilities, interviews with individuals associated with the site or its operations, and personal visits to the site. All efforts were directed towards determining types of munitions used at the site, possible disposal areas, and any unknown training areas. Information obtained during this process was used in developing recommendations for further actions at the site.

1.4 Scope

This investigation concentrated on the potential that OE and/or CWM contamination could remain on **Ephrata Pattern Bombing Range No. 4** from the bombing practice training activities occurring during the World War II (WW II) era. This report presents the history of the site, description and characterization of the immediate surrounding areas, real estate ownership information, findings of a visual site survey, and OE site analysis, including an evaluation of potential ordnance contamination. A separate report supplements these **ASR FINDINGS** and furnishes the **CONCLUSIONS AND RECOMMENDATIONS**.

2.0 PREVIOUS SITE INVESTIGATIONS

2.1 Corps of Engineers Documents

2.1.1 DERP-FUDS Inventory Project Report (INPR)

The *Findings of Fact and Determination of Eligibility (Inventory Project Report or INPR)* for Site No. F10WA057900, **Ephrata Pattern Bombing Range No. 4**, Douglas County, Washington, was completed in March 1996, and forwarded by the Commanding Officer, Seattle District, U.S. Army Corps of Engineers (CENPS) (now CENWS), for approval and signature by the Division Engineer on 22 March 1996. Based upon a preliminary investigation and a site visit conducted on 2 November 1995 by CENPS, it was determined that the site was formerly used by the Department of Defense (DoD) and eligible for the Defense Environmental Restoration Program - Formerly Used Defense Sites (DERP-FUDS). They also determined there is the possibility of hazardous/toxic waste at the site eligible for cleanup under DERP-FUDS. The potential category of Hazardous Waste was identified as OE (formerly OEW). Metal bomb debris and, occasionally, intact spotting charges have been found at various locations within the boundaries of **Ephrata Pattern Bombing Range No. 4** for nearly 50 years. It was also believed that there is a possibility that HE demolition and incendiary bombs may have been used at the site. An OE Risk Assessment Sheet was prepared for this site by CENPS with a RAC score of "4" assigned to the range. It is important to note that the map shown in support of the INPR is incorrect, as is the description of the property in the Findings of Fact, itself. According to historic Real Estate records, the actual location of the former **Ephrata Pattern Bombing Range No. 4** is Sections 31 and 32, Township 24 North (T24N), Range 26 East (R26E), and Sections 5 and 6, T23N, R26E. The INPR map shows the sites as in Sections 31 and 32, T23N, R26E, and in Sections 5 and 6, T22N, R26E, ½ in Douglas and ½ in Grant Counties, Washington. The actual bombing target is approximately six (6) miles north of the site described and shown in the INPR.

Confirmation of the error occurred both during the records research activity and during the site visit task (see **Sections 4 and 6** of this ASR). By Memorandum dated 5 April 1996, the North Pacific Division Corps of Engineers (CENPD) forwarded the INPR to U.S. Army Engineering and Support Center, Huntsville (CEHNC) with the recommendation that they review the proposed OE project and take the necessary actions. By Memorandum dated 26 November 2001, CEHNC approved OE Project No. F10WA057901, **Ephrata Pattern Bombing Range No. 4**. CEHNC also indicated that approval was first recommended to HQUSACE in 1996, but a project approval memorandum was apparently never generated, because project approval authority was subsequently delegated to the Divisions. A

copy of the *INPR*, including Site Survey Summary Sheet, Site Map, preliminary RAC Sheet, and the correspondence chain are furnished as **Appendix D-1**.

2.1.2 Archives Search Report (ASR), Ephrata Army Air Field (AAF)

In June 1994, the St. Louis District, U.S. Army Corps of Engineers submitted the final *ASR* for the Ephrata Army Air Field (AAF), DERP FUDS Site No. F10WA028100, which was located in Grant County, Washington. Constructed in June 1942 as a training base for 2nd Air Force B-17 and B-24, Ephrata AAF was in service until late in 1943 when it was placed in stand-by status. In April 1944, Ephrata AAF was re-activated as a training base for P-39, P-63, and P-38 fighter aircraft units of the Fourth Air Force, until February 1945, when the need for additional fighter pilots lessened. Ephrata AAF was again closed until in July 1945, the base activated again as the 1st and 3rd Air Forces began transferring B-24 crews to Ephrata AAF in preparation for the final push against the Japanese. The base was declared excess in November 1945. The *INPR* for Ephrata Air Force Base was dated 23 June 1989.

2.2 Other Reports

No additional pertinent reports relative to the potential for OE were uncovered for this FUDS.

3.0 SITE DESCRIPTION

3.1 Land Use

3.1.1 Location

Ephrata Pattern Bombing Range No. 4 is located in Sections 31 and 32, Township 24 North (T24N), Range 26 East (R26E), and Sections 5 and 6, T23N, R26 E. The bombing target is approximately 20 miles north of the town of Ephrata, Washington (**Figure 1**). The range is entirely within Douglas County. The INPR contains erroneous data as the site map and the description of the property is wrong. The INPR map shows the sites as in Sections 31 and 32, T23N, R26E, and in Sections 5 and 6, T22N, R26E, ½ in Douglas and ½ in Grant Counties, Washington. The actual bombing target is approximately six (6) miles north of these tracts.

3.1.2 Prior Site Use

Before use by the Army Air Force between 1943 and 1946 as a bombing target, the site was flat, open, treeless land used for crops and stock grazing.

3.1.3 Current Site Use

The majority of the site remains in agricultural use primarily for the growing of crops. Some of the land is now being preserved as natural habitat.

3.2 Climatic Data

Information from an Air Weather Service station at Moses Lake (located approximately 35 miles southeast of this site) provided the closest climatological data. Data recorded at this office is given in **TABLE 3.2.1**.

The climate of this region combines some of the characteristics of damp, coastal-type weather and arid interior conditions. The prevailing westerly and southwesterly circulations bring in most of the air masses that reach this region. Frequently, much of the moisture in the storms that move eastward and southeastward from the Gulf of Alaska and the eastern Pacific Ocean is precipitated out as the storms are lifted across the Coast and Cascade Ranges. Annual precipitation totals in the Ephrata area are generally less than 21 inches, less than 50 percent of the amounts received west of the Cascades. However, the precipitation and total cloudiness in the Ephrata

vicinity is greater than that of the desert areas of south-central Washington. The lifting action of the air masses as they move up the east slope of the Columbia Basin frequently produces the cooling and condensation necessary for formation of clouds and precipitation. The maximum precipitation received in a 24-hour period is 1.4 inches (June 1951).

Infrequently, the Ephrata area comes under the influence of dry continental air masses from either the north or the east. On occasions when these air masses penetrate into eastern Washington, the result is high temperatures and very low humidity during the summer and sub-zero temperatures during the winter. During the winter, most of the severe arctic outbursts of cold air move southward on the east side of the Continental Divide and do not affect Ephrata.

Ephrata weather generally has the characteristics of a mild, arid climate during the summer months and a cold, coastal type during the winter. Approximately 70 percent of the total annual precipitation falls between the first of October and the end of March, and about half of that falls as snow. The summer weather is ideal for full enjoyment of the many mountain and lake recreational areas within the immediate vicinity. Winter weather includes many cloudy or foggy days and below freezing temperatures, with occasional snowfall of several inches in depth. Sub-zero temperatures and traffic-stopping snowfalls are infrequent. The maximum and minimum temperatures on record are 112° Fahrenheit (F) (August 1961) and -28° F (February 1950), respectively.

Based upon the 1951-1980 period, the average first occurrence of 32° F during the fall is October 6 and the average last occurrence during the spring is May 4. Wind gusts have been recorded at a maximum of 61 knots from the southwest (March 1951).

TABLE 3.2.1

**Climatological Data for
Moses Lake, Washington**

Month	Temperature		Precipitation	Wind	
	Average Minimum (°F)	Average Maximum (°F)		Average Speed (knots)	Average Direction
January	21	33	0.9	4	N
February	27	42	0.7	4	N
March	32	51	0.6	5	N
April	39	63	0.5	6	SW
May	47	72	0.6	6	SSW
June	54	79	0.7	6	SSW
July	60	88	0.2	6	SW
August	58	85	0.2	5	SW
September	50	77	0.3	4	SW
October	40	63	0.6	4	N
November	31	45	0.9	4	S
December	25	36	0.8	3	N
Average	41	61	7.0	5	N

Source: *International Station Meteorological Climate Summary, Version 4.0 CD ROM*, September 1996. Jointly produced by: Department of the Navy - Fleet Numerical Meteorology and Oceanography Detachment, National Oceanic and Atmospheric Administration- National Climate Center and the U.S. Air Force Environmental Technical Application Center.

3.3 Geology and Soils

3.3.1 Geology and Physiology

The former **Ephrata Pattern Bombing Range No. 4** is located near the border of the Palouse Hills and Yakima Fold Belt sections of the Columbia Basin subprovince, Columbia Intermontane Province (Thornbury 1965). The Columbia Basin subprovince topography is gently undulating to moderately

hilly, most of which lies at altitudes of 1000-2000 ft. Annual rainfall for much of the area is less than 10 in.

The majority of the site falls within the Yakima Fold Belt section which is characterized by a series of broad, anticlinal ridges and intervening synclinal valleys. The Palouse Hills section consists of nearly undeformed basalt with a gentle southwest slope of less than 5 degrees (Vaccaro 1982).

Most of the Columbia Basin is covered with basalt flows of Miocene age. Those flows are collectively known as the Columbia River Basalt Group and were extruded over an interval of 11 million years during the Miocene between 17 and 6 million years ago. Warping and folding of the plateau increased late in the eruptive cycle and confined later basalt flows to central part of the plateau and to narrow canyons located near the plateau margins.

Above the basalts, is a composite unit that includes consolidated and unconsolidated deposits of fluvial, lacustrine, volcanic, and eolian origin ranging from Miocene to Holocene age, referred to as the overburden (Vaccaro 1982).

3.3.2 Soils

The site soils were formed by gravelly glacial outwash and the scouring of the Columbia Plateau by the Spokane Flood during the Pleistocene age (Alt 1993). The surface of the soil consists of brown stony sandy silty clay about 6 inches deep. The subsoil, about 12 inches deep, is divided into two layers. The first 5 inches is composed of pale brown gravelly sandy silty clay, while the remaining layer is composed of pale brown very gravelly sandy silty clay. Continuing down to 60 inches, the substratum is composed of gray extremely gravelly coarse sand.

The permeability of the site soil is moderately rapid to the substratum and very rapid through it. Due to this, the available water capacity is low. Runoff of excess water is slow and the hazard of water erosion is slight. Corrosivity of the site soil is moderate for uncoated steel and low for concrete.

In the northern portion of the site is an area that was used as a bombing range. The surface layer of the soil in this area is brown to yellow-brown, very cobbly, silty, sandy, clay about 8 inches deep. In larger areas of the bombing range, the surface soil is underlain by basalt. The basalt lies anywhere from 4 to 20 inches from the surface. In the areas where the basalt is not present at that shallow depth, the subsoil and substratum are composed of very gravelly to extremely gravelly yellowish-brown sand. This

soil has slow permeability and a low water capacity. The runoff is moderate and corrosivity is moderate for uncoated steel and low for concrete (Beielor 1981).

3.4 Hydrology

3.4.1 Surface Water

All runoff from this site will flow into a series of perennial streams that flow westerly, none of which are named on the United States Geological Survey (USGS) quadrangle map. Flooding of this area would occur as a result of torrential rains (causing flash flooding). No USGS stream gaging stations exist near this site.

3.4.2 Ground Water

The Columbia Plateau aquifer system consists of two components: the Columbia River Basalt Group and the overburden.

The Columbia River Basalt Group has three hydrogeologic units, the Grande Rhonde Basalt, the Wanapum Basalt, and the Saddle Mountains Basalt. The Basalt Group, as a whole, has an average hydraulic conductivity of .47 ft/yr. The overburden consist of consolidated and unconsolidated deposits of fluvial, lacustrine, volcanic and eolian units. As a whole, the average hydraulic conductivity of the overburden hydrologic unit is 66,000 ft/yr.

The direction of ground-water flow in the overburden aquifer is toward discharge points along surface water features. Water in the overburden is in direct hydraulic contact with water in the immediately underlying basalt unit. Recharge to the aquifer system is primarily from precipitation and applied irrigation water, and secondarily from surface-water bodies such as canals, rivers, lakes, and reservoirs (Vaccaro 1982).

3.5 Ecology

The information provided for this site has been compiled from the U.S. Fish and Wildlife Service and the Washington State Department of Natural Resources.

The U.S. Fish and Wildlife Service and the Department of Natural Resources have indicated that the following Federally listed, proposed, candidate and species of concern, and state listed threatened, endangered or rare species may occur within Douglas County, Washington.

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Scientific Name	Common Name	Group	Fed. Status	St. Status
<i>Astragalus misellus var pauper</i>	Pauper milk-vetch	Plant		WA S
<i>Carex xerantica</i>	White-scaled sedge	Plant		WA S
<i>Contopus borealis</i>	Olive-sided flycatcher	Birds	SC	
<i>Corydalis aurea</i>	Golden corydalis	Plant		Review
<i>Delphinium viridescens</i>	Wenatchee larkspur	Plant	SC	WA T
<i>Gulo gulo luscus</i>	Wolverine	Mammals	SC	Review
<i>Iliamna longisepala</i>	Longsepal globemallow	Plant		WA S
<i>Juncus tiehmii</i>	Tiehm's rush	Plant		WA T
<i>Myotis evotis</i>	Long-eared myotis	Mammals	SC	
<i>Myotis volans</i>	Long-legged myotis	Mammals	SC	
<i>Onchorhynchus clarki lewisi</i>	Westslope cutthroat trout	Fish	SC	
<i>Onchorhynchus mykiss gairdneri</i>	Interior redband trout	Fish	SC	
<i>Ophioglossum pusillum</i>	Adder's-tongue	Plant		WA T
<i>Penstemon eriantherus var whitedii</i>	Fuzzytongue penstemon	Plant		Review
<i>Petrophyton cinerascens</i>	Chelan rockmat	Plant	SC	WA T
<i>Phacelia lenta</i>	Sticky phacelia	Plant	SC	WA T
<i>Phacelia tetramera</i>	Dwarf phacelia	Plant		WA S
<i>Trifolium thompsonii</i>	Thompson's clover	Plant	SC	WA T
<i>Accipiter gentilis</i>	Northern goshawk	Birds	SC	
<i>Allium constrictum</i>	Constricted douglas' onion	Plant		WA S
<i>Anodonta californiensis</i>	California floater	Mussels	SC	Review
<i>Astragalus agrestis</i>	Field milk-vetch	Plant		Review
<i>Athene cunicularia hypugea</i>	Western burrowing owl	Birds	SC	Review
<i>Brachylagus idahoensis</i>	Pygmy rabbit	Mammals	E	WA E
<i>Buteo regalis</i>	Ferruginous hawk	Birds	SC	WA T
<i>Camissonia pygmaea</i>	Dwarf evening-primrose	Plant		WA T
<i>Carex hystericina</i>	Porcupine sedge	Plant		WA S
<i>Centrocercus urophasianus phaios</i>	Western sage grouse	Birds	C	WA T
<i>Chlidonias niger</i>	Black tern	Birds	SC	
<i>Corynorhinus townsendii pallescens</i>	Pale Townsend's big-eared bat	Mammals	SC	
<i>Cryptantha leucophaea</i>	Gray cryptantha	Plant	SC	WA S
<i>Cryptantha spiculifera</i>	Snake river cryptantha	Plant		WA S

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<i>Cyperus bipartitus</i>	Shining flatsedge	Plant		WAS
<i>Erigeron piperianus</i>	Piper's daisy	Plant		WAS
<i>Fluminicola columbianus</i>	Columbia pebblesnail	Snails	SC	
<i>Hackelia hispida var disjuncta</i>	Sagebrush stickseed	Plant		WAS
<i>Haliaeetus leucocephalus</i>	Bald eagle	Birds	T	WAT
<i>Juncus uncialis</i>	Inch-high rush	Plant		Review
<i>Lampetra tridentata</i>	Pacific lamprey	Fish	SC	
<i>Lanius ludovicianus</i>	Loggerhead shrike	Birds	SC	Review
<i>Mimulus suksdorfii</i>	Suksdorf's monkey-flower	Plant		WAS
<i>Monolepis pusilla</i>	Red poverty-weed	Plant		Review
<i>Myotis ciliolabrum</i>	Small-footed myotis	Mammals	SC	
<i>Myotis thysanodes</i>	Fringed myotis	Mammals	SC	
<i>Myotis yumanensis</i>	Yuma myotis	Mammals	SC	
<i>Nicotiana attenuata</i>	Coyote tobacco	Plant		WAS
<i>Pediocactus simpsonii var robustior</i>	Hedgehog cactus	Plant		Review
<i>Rana luteiventris</i>	Columbia spotted frog	Amphibians	SC	Review
<i>Sceloporus graciosus graciosus</i>	Northern sagebrush lizard	Reptiles	SC	
<i>Spermophilus washingtoni</i>	Washington ground squirrel	Mammals	C	Review
<i>Spiranthes diluvialis</i>	Ute ladies'-tresses	Plant	T	
<i>Tympanuchus phasianellus columbianus</i>	Columbian sharp-tailed grouse	Birds	SC	WAT

Key to Listings

E -- Endangered	SCx -- Other species of concern to the Service, possibly extirpated from the area
T -- Threatened	(CH) -- Critical Habitat
PE -- Proposed Endangered	WAE -- Washington State Listed Endangered
PT -- Proposed Threatened	WAT -- Washington State Listed Threatened
C -- Candidate Taxon for Proposal	WAS -- Washington State Sensitive Species
X--Possibly extirpated from area	Review -- Washington State Candidate Species, under review for listing
xx--Possibly extinct	SC -- Other species of concern to the Service

Federally endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency must request formal consultation with the Service. Candidate species are those for which there is sufficient information to support a proposal for listing.

Although candidate species have no legal protection under the Act, the Service recommends that they be considered in the planning process in the event that they become listed or proposed for listing prior to project completion.

No additional information on the occurrence of rare or endangered species or natural communities is known at this time. This does not mean that other State or Federally listed species may not be present within the areas of interest. For instance, in this particular region, species of anadromous fish that have been listed by the National Marine Fisheries Service (NMFS) may occur, but have not been listed. An on site inspection by appropriate state and federal personnel may be necessary to verify the presence, absence or location of listed species, or natural communities if remedial action is recommended as part of the final ASR.

3.6 Demographics

3.6.1 Douglas County, Washington

	People QuickFacts	Douglas County	Washington
<input type="checkbox"/>	Population, 2001 estimate	32,967	5,987,973
<input type="checkbox"/>	Population percent change, April 1, 2000-July 1, 2001	1.1%	1.6%
<input type="checkbox"/>	Population, 2000	32,603	5,894,121
<input type="checkbox"/>	Population, percent change, 1990 to 2000	24.4%	21.1%
<input type="checkbox"/>	Persons under 5 years old, percent, 2000	7.6%	6.7%
<input type="checkbox"/>	Persons under 18 years old, percent, 2000	29.5%	25.7%
<input type="checkbox"/>	Persons 65 years old and over, percent, 2000	12.7%	11.2%
<input type="checkbox"/>	White persons, percent, 2000 (a)	84.7%	81.8%
<input type="checkbox"/>	Black or African American persons, percent, 2000 (a)	0.3%	3.2%
<input type="checkbox"/>	American Indian and Alaska Native persons, percent, 2000 (a)	1.1%	1.6%
<input type="checkbox"/>	Asian persons, percent, 2000 (a)	0.5%	5.5%
<input type="checkbox"/>	Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	0.1%	0.4%
<input type="checkbox"/>	Persons reporting some other race, percent, 2000 (a)	10.8%	3.9%
<input type="checkbox"/>	Persons reporting two or more races, percent, 2000	2.5%	3.6%
<input type="checkbox"/>	Female persons, percent, 2000	50.4%	50.2%
<input type="checkbox"/>	Persons of Hispanic or Latino origin, percent, 2000 (b)	19.7%	7.5%
<input type="checkbox"/>	White persons, not of Hispanic/Latino origin, percent, 2000	77.2%	78.9%
<input type="checkbox"/>	High school graduates, persons 25 years and over, 1990	12,518	2,620,607
<input type="checkbox"/>	College graduates, persons 25 years and over, 1990	2,281	716,969

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<input type="checkbox"/>	Housing units, 2000	12,944	2,451,075
<input type="checkbox"/>	Homeownership rate, 2000	70.9%	64.6%
<input type="checkbox"/>	Households, 2000	11,726	2,271,398
<input type="checkbox"/>	Persons per household, 2000	2.76	2.53
<input type="checkbox"/>	Households with persons under 18, percent, 2000	41.2%	35.2%
<input type="checkbox"/>	Median household money income, 1997 model-based estimate	\$35,999	\$41,715
<input type="checkbox"/>	Persons below poverty, percent, 1997 model-based estimate	10.0%	10.2%
<input type="checkbox"/>	Children below poverty, percent, 1997 model-based estimate	14.6%	15.2%
Business QuickFacts		Douglas County	Washington
<input type="checkbox"/>	Private nonfarm establishments, 1999	551	162,932
<input type="checkbox"/>	Private nonfarm employment, 1999	3,860	2,209,129
<input type="checkbox"/>	Private nonfarm employment, percent change 1990-1999	20.7%	25.4%
<input type="checkbox"/>	Nonemployer establishments, 1999	1,247	321,766
<input type="checkbox"/>	Manufacturers shipments, 1997 (\$1000)	NA	78,852,486
<input type="checkbox"/>	Retail sales, 1997 (\$1000)	184,871	52,472,866
<input type="checkbox"/>	Retail sales per capita, 1997	\$5,615	\$9,363
<input type="checkbox"/>	Minority-owned firms, percent of total, 1997	7.4%	9.6%
<input type="checkbox"/>	Women-owned firms, percent of total, 1997	26.4%	27.5%
<input type="checkbox"/>	Housing units authorized by building permits, 2000	127	39,021
<input type="checkbox"/>	Federal funds and grants, 2001 (\$1000)	137,579	36,903,358
<input type="checkbox"/>	Local government employment - full-time equivalent, 1997	1,122	185,152
Geography QuickFacts		Douglas County	Washington
<input type="checkbox"/>	Land area, 2000 (square miles)	1,821	66,544
<input type="checkbox"/>	Persons per square mile, 2000	17.9	88.6
<input type="checkbox"/>	Metropolitan Area	None	

(a) Includes persons reporting only one race.

(b) Hispanics may be of any race, so also are included in applicable race categories.

FN: Footnote on this item for this area in place of data

NA: Not available

D: Suppressed to avoid disclosure of confidential information

X: Not applicable

S: Suppressed; does not meet publication standards

Z: Value greater than zero but less than half unit of measure shown

F: Fewer than 100 firms

4.0 SITE HISTORY

4.1 Historical Site Summary

In June 1942, Ephrata Army Air Base was activated. On 24 February 1943, the Second Air Force requested that the Commanding General of the Army Air Forces approve a Pattern Bombing Range located in Sections 31 and 32 of T24N, R26E, and Sections 5 and 6 of T23N, R26E, in Douglas County (Office of the Commanding General, Second Air Force, 1943; Office of the Division Engineer, Pacific Division 1943). Also on 24 February, Clearance was requested from the Interdepartmental Air Traffic Control Board (IATCB) for **Ephrata Pattern Bombing Range No. 4¹** to be located at approximately 47° 30' N latitude, 119° 35' W longitude (Office of the Division Engineer, Pacific Division 1943a; Office of the Assistant Chief of Air Staff, Material and Services 1945).

The **Ephrata Pattern Bombing Range No. 4** was located approximately 15 miles northwest of Ephrata Army Air Base and consisted of 2,460.12 acres of land. Facilities constructed on this site included one 64 square foot portable radio shack, one 64 square foot portable motor generator shed, and several targets built by troops. It was used for high altitude bombing by heavy bombardment crews (War Department 1945).

Between February 1944 and January 1945, the air bases at Ellensburg, Geiger, Moses Lake and possibly others were turned into sub-bases or auxiliary fields for Ephrata Army Air Base (Ephrata Army Air Base 1944b; Ephrata Army Air Base 1945a). Ephrata Army Air Base was informed, on 28 January 1945, that it would become a sub-base of McChord Field effective 1 February 1945 (Ephrata Army Air Base 1945a). On 15 February 1945, parts of Ephrata were named temporarily inactive (Office of the Assistant Chief of Air Staff 1945a).

Between November 1943 and 1945, Ephrata Army Air Base experienced a series of deactivations and reactivations in status. In late September 1945 the base was reduced to a "temporarily" inactive status (Ephrata Army Air Base, 1943d; Office of the Assistant Chief of Air Staff 1945a; Assistant Chief of Air Staff 1945b).

The Ephrata Army Air Base made the **Ephrata Pattern Bombing Range No. 4** available for deactivation as of 30 September 1945 (War Department 1945).

¹ The Ephrata Pattern Bombing Range No. 4 was also known as Ephrata Precision Bombing Range No. 1 and the Bright High Altitude Bombing Range.

On 6 October 1945, the Fourth Air Force recommended Ephrata Army Air Base and its gunnery ranges be moved to a surplus status (War Department 1945) and in late December the station was declared surplus to the needs of the War Department (WD) (Air Inspector, Western Field Division 1946).

On 5 March 1947, the Secretary of War began the process of removing Ephrata Army Air Base from surplus status (Adjutant General's Office 1947). The research team found no evidence that the **Ephrata Pattern Bombing Range No. 4** was used at this time. No information concerning the base's activity was found either. On 31 August 1950, Ephrata Army Air Base was reported as excess to the needs of the Army for the last time (Finegan 1951). On 18 March 1953, the Ephrata Airport was deeded to the city of Ephrata, Washington (Congressional & Public Affairs Committee 1961).

4.1.1 Summary of OE Activities

In September 1943, Ephrata Army Air Base stored 100-lb. M38A2 practice bombs, as well as, 300, 500, and 1000-lb. bombs (Archive Search Report, Ephrata Army Air Field 1994). As of February 1945, Ephrata AAF had bombs, incendiaries, 1 An-M8 cluster incendiary bomb, and M1 or M2 instructional bombs (Ephrata Army Air Base 1945a). Additionally, Ephrata Army Air Base was known to possess .30 caliber, .50 caliber, 20mm, and 40mm ammunition (Archive Search Report, Ephrata Army Air Field 1994).

4.1.2 Summary of CWM Activities

The research team found no evidence that chemical munitions of any type were used at **Ephrata Pattern Bombing Range No. 4**.

4.1.3 Certificate of Clearance

The research team found no certificates of clearance for the **Ephrata Pattern Bombing Range No. 4**.

4.2 Review of Historical Records

4.2.1 NATIONAL ARCHIVES AND RECORDS ADMINISTRATION 8601 ADELPHI ROAD COLLEGE PARK, MD 20740-6001

Record Group 18 (Records of the Army Air Corps)

Entry 1A: Decimal File 1945

Box 288

Ephrata Ranges

Box 289

**Army Decimal File 686 Army Air Bases and Aviation
Fields**

Box 291

Army Decimal File 686 AAB and Aviation fields

Box 292

Decimals 686.61 to 686.63

Box 293

**Air Adjutant General Mail and Records Division.
Classified Records Section Decimal File 686.9-710 1945**

Entry 1C: Bulky Decimal File 1945

Box 558

Decimal 684-686

Box 559

Decimal 684-686

Entry 1D: Decimal File 1946-47

Box 672

Decimal 684-686

Box 673

Decimal 684-686

Entry 1G: Decimal File (Jan.-Oct.) 1948

Box 839

Army Decimal File 684, Target Ranges

Box 840

Army Decimal File 686, Airfields

Entry 1H: Project Decimal File (Jan.-Oct.) 1948

Box 842

Foreign Misc. Jan.-Mar. 1948

Box 843

Foreign Misc. Jan.-Mar. 1948

Box 844

Foreign Misc. Jan.-Mar. 1948

Box 845

Foreign Misc. Jan.-Mar. 1948

Entry 1I: Bulky Decimal File 1948

Box 2221

Army Decimal Files 600s November 1945- July 1946

Box 2222

Army Decimal Files 600s January 1 – October 31 1945

Box 2223

Army Decimal Files 600s July 1945

Box 2224

Army Decimal Files 600s August through December 1946

Box 2225

Army Decimal Files 600s February 1945

Entry 2A: Decimal File 1944-46

Box 2247

Decimal Files 680-684

Box 2248

Target Ranges June 1944 – December 1945

Box 2274

Buildings and Grounds Washington A-L 1946

Box 2305

Buildings and Grounds Washington "A" – "L"

Box 2306
Buildings and Grounds Washington "M" - "Z"

Box 2333
Army Decimal File 686 VA - WA

Box 2334
Army Decimal Files 686 WA - WY 1944

Entry 2B: Bulky Decimal File, 1944-46

Box 2249
Airfields June 1 through December 31 1946

Box 2250
Airfields September - December 1945

Box 2251
Airfields January - August 1945

Box 2252
Airfields November - March 1945

Box 2253
Airfields July - October 1944

Box 2424
Bulky Decimal Files 600 - 601.53

Box 2425
Bulky Decimal File 602 - 726.5

Entry 2C: Decimal File, 1947

Box 2815
Army Decimal File 686 Washington State 1 January
through 1 June

Entry 2D: Bulky File 1947-48

Box 854
Files related to Ephrata No. 2 only

Box 2837
Army Decimal Files 463-700

Entry 2F: Bulky Decimal File 1946-47

Box 3223

Decimal 472-686 Texas

Entry 46: Air Inspector Files

Box 44

Washington

Box 107

Washington

Box 182

Washington

Entry 292A: Central Decimal Files 1942-44

Box 1498

Ephrata Army Air Force

Box 1641

Army Decimal Files 680.4 - 684

Box 1642

Army Decimal File 686

Box 1643

Army Decimal File 686

Entry 292B: Central Decimal Files, Bulky 1942-44

Box 137

Decimals 560 - 600.1 Miscellaneous

Box 141

Decimals 665-684

Box 143

Decimal 686

Entry 294A: Bulky Files 1942-44

Box 789

Pipe Line decimal 678 to Supply Depot decimal 681

Box 869

Decimals 680.3 - 686

Box 870

Bases and Fields decimal 686-D – 686-G

Box 871

Bases and Fields decimal 686-H – 686-L

Box 872

Army Decimal Files 686-M, Bases and Fields March 1
1944 to Army Decimal File 686-P Bases and Fields July
15 1944

Box 1648

Army Decimal Filing 686 Texas to Miscellaneous

Entry 294B: Bulky Files 1942-44

Box 789

Decimals 678-681

Box 800

Decimal 686, AAB and Aviation Field Site Surveys

Entry 295: Correspondence Relating to Airfields, 1939-1945

Box 1414

Ephrata

Entry 297: Correspondence Relating to Corps Areas

Box 1086

9th C.A.

Box 1077

7th C.A.

Box 1078

7th C.A.

Record Group 48 (Records of the Department of the Interior)

Entry 749B: Construction Completion Reports, 1917 – 43

Box 3222

New Mexico – Washington Naval

Record Group 77 (Records of the Chief of Engineers)

Entry 106B: General Correspondence, 1918 - 45

Box 823

Army Decimal File 684

Box 825

Army Decimal File 685.1 – 686

Box 826

Army Decimal File 686

Box 827

Army Decimal File 686 – 686.61

Entry 433

Box 29

Foster A.B. – French Morocco 1951-52

Entry 435: Project Decimal Files 1949 - 50

Box 25

England to Finns Point National Cemetery

Entry 1011: Formerly Classified Subject Files

Box 114

Army Decimal File 400s

Box 389

England through Ephrata Airfield

Box 390

Ephrata Airfield #2 through European Theater of
Operations

Entry 1951: 9800 TSU Detachment

Box 1

Bomb and Shell Disposal 1946-48 including Ephrata Low
Altitude Bombing Range Clean up

Entry 1023: General Correspondence relating to airfields, 1940 - 45

Box 25

Army Decimal File 671.2

Box 26

Airfields Part 1, Series 1-8 February – August 1942

Box 27

Airfields Parts 2 – 4, Decimals 331-450,686

Cartographic

Real Estate Division: Ephrata Bombing Range, WA

Record Group 92 (Office of the Quartermaster General)

Entry 1890B: General Correspondence "Subject File" 1946-48

Box 273

Arctic 1947 decimal 600.1 – World War II 1947 decimal
687

Entry 1892A: General Correspondence "Geographic File" 1936-45

Box 152

England decimal 601.53 – Ephrata Bombing Range
decimal 687

Entry 1892B: General Correspondence "Geographic File" 1946-48

Box 144

Epinal Cemetery, France – Finnis Point NK, NJ

Box 192

Files by site

Box 364

Files by site

Entry 1892F: Classified Correspondence File, 1936-1952

Box 4

England decimal 311.5 – Ft. Dupont decimal 311.2

Box 7

England decimal 600.1 – Greenland decimal 311.2

Box 8

Files by site

Box 23

Files by site

Box 33

Eniwetok 682 – Eniwetok 682

Box 35

Ethiopia decimal 370.01 – Germany decimal 311.2

Box 36
Files by site

Record Group 107 (Secretary of War)

Entry 102: Airfields and Bombing Ranges

Box 127

Aviation Fields and Air Bombing Ranges

Entry 211: Airfields by State

Box 213

Washington to Wyoming

Record Group 159 (Office of the Inspector General)

Entry 26D: General Correspondence 1939-47

Box 455

Air Installations Drew Field, FL to Ephrata Air Base, WA

Record Group 175 (Chemical Warfare Service)

Entry 1: Letters

Box 62

Letter missing

Box 229

Documents 2350 and 2353

Entry 2: Index Briefs, 1918 – Oct. 1942

Box 187

Ephrata

Record Group 237 (Records of the Federal Aviation Administration)

Entry 16A: Administrative Division Subject Correspondence File
1942-49

Box 66

Station list – Troop Bases

Box 67

Troop Bases

Box 68

Troop Bases – Troop Training Units

Entry 37: IATCB Meetings

Boxes 1-4

IATCB Meetings

Entry 55: General Correspondence 1942-48

Box 1123

Decimal 684 - 686

Box 1124

Decimal 686.1 - 704

Record Group Record Group 291 (Records of GSA Property Disposal)

Entry 5: Utilization and Disposal Service Real Property Disposal Case
Files

Box 201

Ephrata Air Force Base documents

Record Group 337 (Records of the Chief of Staff)

Entry 16: Administrative Division [Formerly] Classified Decimal
Correspondence File 1941-52

Box 45

600 Building and Grounds 1946-47

Box 46

660.2, Harbor Defense Files – 683 Forts, Posts, and
Installations

Entry 55: General Correspondence 1942-48

Box 1121

Target Ranges

Box 1122

Target Ranges

Entry 57: Decimal Correspondence of General Headquarters, U.S.
Army 1940-42

Box 107

Target Ranges, decimal 684

Record Group 341 (Records of Headquarters US Air Force (Air Staff))

Entry 494: Correspondence Relating to Real Estate Facilities, 1948-55

Box 3

Ephrata, WA

Box 15

Construction Directives 1946-47

Box 16

Construction Directives 1948

Record Group 407 (Records of the Adjutant General's Office)

Entry 363A: Military Posts and Reservations

Boxes 4367-4368

Flying Fields E-G

Entry 363B: 1946-48 Unclassified Project Decimal Files

Box 1713

Range Files

**4.2.2 NATIONAL ARCHIVES AND RECORDS ADMINISTRATION
700 PENNSYLVANIA AVENUE, NW
WASHINGTON, DC 20408**

Record Group 49 (Bureau of Land Management)

Entry 2005: Index to Letters Received from other Government
Agencies

Boxes 128-129

War Department letters

Entry 2009: Miscellaneous Letters Received 1910-46

Box 7570

War Department letters

Box 7652

Ephrata Pattern Gunnery Range

Record Group 153 (Records of the Office of Judge Advocate General (Army))

Entry 56A: Reservation File Sub-Series II

Box 517

Ephrata Bombing Range

Box 518

Ephrata Bomb Range

**4.2.3 NATIONAL PERSONNEL RECORDS CENTER
MILITARY PERSONNEL RECORDS
9700 PAGE AVENUE
ST. LOUIS, MO 63132
(314) 538-4201**

Accession 342-44A-6003

Box 25

2nd Air Force Correspondences files with a map of a range near Ephrata (not our site, however)

Box 26

2nd Air Force Correspondences files with a completion report for Ephrata No. 2 Airfield

Accession 342-47A-4219

Box 1

Installation planning information on Ephrata Army Airfield, 1942-45

Accession 342-47B-4219

Box 1

Installation History of Ephrata Army Airfield, 1943-45

Accession 342-52B-3007

Box 9 and 67

Wright-Patterson General Correspondence including 600 files on Ephrata

Accession 342-53A-3001

Box 9

Air Material Area, Ogden General Correspondence, including 686 files on Ephrata (dated 1947)

Accession 342-54B-3005

Box 2

Air Material Area, Ogden General Correspondence, including 686 files on Ephrata (dated 1951)

Accession 342-55F-3042

Box 7

Wright-Patterson Property Audits including a file on Ephrata, WA (dated 1950)

Accession 342-55P-5042

Box 4

Wright-Patterson General Correspondence including a file on
Ephrata, WA (dated 1952)

Accession 342-57C-3001

Box 6

4th Air Force Organization Planning Files including a file on
Ephrata, WA consisting of personnel records

Accession 342-57H-3001

Boxes 14, 15, 18, 21

4th Air Force Installation Development Files including files on
Ephrata

Accession 342-57M-3001

Boxes 1

4th Air Force Installation Development Files including files on
Ephrata (dated 1951)

Accession 342-57B-3007

Boxes 9

Air Material Area, Ogden Installation Development, including
686 files on Ephrata (dated 1948)

**4.2.4 NATIONAL ARCHIVES-PACIFIC ALASKA REGION (SEATTLE)
6125 SAND POINT WAY, NE
SEATTLE, WA 98115-7999**

Record Group 77 (Records of the Chief of Engineers)

Entry SEA9: General Administrative Files, 1943-53

Box 2

Real Estate Project Audit Report
Report of Land Acquisition

Box 4

Construction in Excess of \$500,000
Construction Progress Data and Reports 1951-53

Box 5

Active Military Construction, 1952
Disposition of Excess Real Property

Box 6

Military Construction Report 1952
Minor Construction Jobs

Box 11

Special War Construction Program
Surplus Real Estate Disposal

Box 12

Surplus Real Estate Disposal

Box 22

Statistical Reports of War Construction Program, 1943-45

Record Group 121 (Records of the Public Building Service)

Entry: Real Property Disposal Case Files

Boxes 86-88

Disposal Records relating to the Airbase only

Box 111

Information of the Moses Lake Bombing Ranges

Record Group 269 (Records of the General Services Administration)

Entry: Real Property Disposal Case Files

Box 1 and 3

Disposal Records relating to the Airbase only

Record Group 270 (Records of the War Assets Administration)

Entry: Real Property Disposal Case Files

Boxes 407-412

Disposal Records relating to the Airbase only

4.2.5 MAXWELL AIR FORCE BASE

AIR FORCE HISTORICAL RESEARCH AGENCY

600 CHENNAULT CIRCLE

MAXWELL AFB, AL 63112-6424

Corps of Engineers Construction Boxes

Ephrata, WA

IRIS Numbers: 02020276 – 02020380

Four boxes pertaining mostly to Ephrata Army Air Base

63rd Airdrome Squadron

Call Number: SQ-ADRM-63-HI

4th Air Force Sub-Depots

Call Number: 450.01-16 V. 1

993rd Air Material Squadron

1 January through 30 June 1945

Call Number: SQ-SV-993-HI

89th Air Service Group

History 1 March 1944 through 1 September 1945

Call Number: GP-SV-90-HI

375th Air Service Group

History 14 September through 31 October 1945

Call Number: GP-SV-375-HI

6th Bombardment Group

History 1 April 1944 through 31 January 1945

Call Number: GP-6-HI

28th Bombardment Group

History 1 August 1946 through 31 August 1946

Call Number: GP-28-HI

376th Bombardment Group

History 1 April through 30 June 1945

Call Number: GP-376-HI (Bomb)

382nd Bombardment Group

History 1 July through 31 July 1945

Call Number: GP-382-HI (Bomb)

393rd Bombardment Group

History 1 November through 31 November 1943

Call Number: GP-393-HI (Bomb)

401st Bombardment Group

History 1 April through 4 June 1943

Call Number: GP-401-HI (Bomb)

449th Bombardment Group
History 16 September through 30 September 1945
Call Number: GP-449-HI (Bomb)

450th Bombardment Group
History 1 August through 30 August 1945
Call Number: GP-450-HI (Bomb)

467th Bombardment Group
History 1 September through 30 September 1945
Call Number: GP-467-HI (Bomb)

498th Bombardment Group
History 1 August to 31 August 1944
Call Number: GP-498 (HI)

502nd Bombardment Group
History 1 September through 31 September 1944
Call Number: GP-502-HI

505th Bombardment Group
History 11 March through 31 May 1944
Call Number: GP-505-HI

512th Bombardment Squadron
History 1 July through 31 July 1945
Call Number: SQ-BOMB-512 HI

582nd Bombardment Squadron
16 February through 30 September 1943
Call Number: SQ-BOMB-582-HI

583rd Bombardment Squadron
16 February through 1 October 1943
Call Number: SQ-BOMB-583-HI

717th Bombardment Squadron
History 1 July 1946 through 30 April 1947
Call Number: SQ-BOMB-717-HI

843rd Bombardment Squadron
1 September 1943 through 31 January 1944
Call Number: SQ-BOMB-843-HI

17th Bombardment Wing

1 May through 31 May 1944

Call Number: WG-17-HI (Bomb)

6th Mobile Training Unit

Microfilm 00496

62nd Service Group

1 May through 30 June 1946

Call Number: GP-SV-62-HI

69th Service Group

History 11 May 1944 through 11 October 1944

Call Number: GP-SV-69-HI

348th Service Group

1 December 1944 through 28 February 1945

Call Number: GP-SV-348-HI

540th Service Group

10 May through 31 December 1943

Call Number: GP-SV-540-HI

424th Sub-Depot

Microfilm 00221

4.2.6 U.S. ARMY CORPS OF ENGINEERS

SEATTLE DISTRICT

4735 EAST MARGINAL WAY

SEATTLE, WA 98124-3755

The research team reviewed the INPR back-up file, and the Real Estate Audit File for **Ephrata Pattern Bombing Range No. 4**

4.3 Summary of Interviews

Interviews were conducted by telephone and in person, both prior to and during the site inspection. The primary purpose of these interviews was to make initial contact with individuals knowledgeable of the site and to coordinate follow-up visits during the site inspection phase of this ASR's preparation. A list of persons interviewed is included in **Appendix H**. Any pertinent information derived from these interviews is covered within the body of this ASR.

4.4 Air Photo Interpretation and Map Analysis

4.4.1 Interpretation of Aerial Photography

The ASR research team performed an aerial photography search at the National Archives (NARA), EROS Data Center (EROS) and USDA. The following photography covering the FUDS portion of **Ephrata Pattern Bombing Range No. 4** was located.

<u>Photo</u> <u>Date</u>	<u>Scale</u>	<u>Source</u>	<u>Record</u> <u>Group</u>	<u>FLIGHT</u> <u>ID</u>
29 Jul 1949	1:20,000	NARA	373	AAQ-5F

The ASR research team selected the NARA 29 July 1949 photography to examine in detail and attempt to determine the possible presence of disturbed ground, ground scars and/or any evidence of construction or burial that may have originated from the period of military use. The 1949 photo dates listed below cover the site.

29 Jul 1949	1:20,000	NARA	373	AAQ-5F-37, 38
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Photo 5F-37

The imagery clearly shows the project area of concern to include a large bombing target as referenced in the INPR. The target consists of six concentric circles with diameters of approximately 125 feet, 250 feet, 350 feet, 500 feet, 750 feet, and 950 feet. Two north/south streams run through the target area. The area inside and immediately outside the target area does not indicate significant ordnance scars or craters. Two linear (approximately 10 feet by 20 feet) cleared areas can be located in the vicinity of the target. One of the linear features is at the north edge of the largest (950 foot diameter) circle. The other linear feature is approximately 50 feet outside the 950 foot diameter circle to the northwest of the overall target. The use or purpose of the linear features cannot be discerned from the imagery. However, due to their proximity to the target area, they may have served as staging or viewing areas.

Stereo photography was analyzed from hardcopy prints using pocket stereoscopes. All measurements in this analysis were made using analog instrumentation, and should be considered approximate.

1949 Photography analyzed for this study is annotated on **Plate 3**, at the end of this report. Note: Information from other photo dates may be included on this plate.

4.4.2 Map Analysis

The site was analyzed using the maps shown in **Appendix K**, plus the following USGS 7.5 minute quadrangle map:

Jameson Lake SE, WASH (1965)

Review of the above-cited map sheets confirms general descriptions found in **Paragraph 4.4.1** above. The maps were also useful in locating boundaries and identifying features on the photography.

Department of Defense

- c. 1945 "Boundary of Vital Defense Area circa 1945. Record Group 18, Entry 1A, Box 288, Box 823, File 684. National Archives II, College Park, MD.

The above map depicts the locations of bombing and gunnery ranges in the vicinity of Ephrata Army Air Base. The map depicts a target labeled "Ephrata Precision Bombing Range No. 1" as being located at approximately 47° 30' N latitude, 119° 35' W longitude.

5.0 REAL ESTATE

5.1 Confirmed DoD Ownership

The **Ephrata Pattern Bombing Range No. 4** was established in late 1943 to provide a training facility for the U.S. Army 2nd Air Force assigned to the Ephrata Army Air Field (FLOWA028100), Ephrata, Washington. The former range, consisting of 2,460.12 acres leased from private owners, the State of Washington and Douglas County, is located approximately 20 miles north of Ephrata. The leases were terminated in September and October of 1946 and the land was returned to the original owners. The site is flat, open, treeless land used for crops and stock grazing.

5.2 Potential DoD Ownership

No additional areas of potential DoD ownership associated with the **Ephrata Pattern Bombing Range No. 4** were identified through the Archives Search.

5.3 Significant Past Ownership Other than DoD

No significant past ownership relating to Ordnance or Explosives, including Chemical Warfare Materials, was found during the investigation of **Ephrata Pattern Bombing Range No. 4**.

5.4 Current Ownership

Private parties and the State of Washington, who use this land for agricultural purposes, currently own the property that was once **Ephrata Pattern Bombing Range No. 4**.

6.0 SITE INSPECTION

6.1 General Procedures and Scope

The purpose of the ASR site inspection is to characterize the OE potential based upon ascertaining ordnance presence or disposal on **Ephrata Pattern Bombing Range No. 4**. Permission was obtained from Mr. Paul Malone, landowner and lessee of State of Washington lands, and Mr. Westly Roberts, Mr. Don Dorsey, and Mr. Edward Preston, landowners, to access the site and observe present conditions. The inspection was limited to visual, non-intrusive methods (i.e., no digging for or handling of potential OE). A site safety plan was developed and followed by the team to prevent injury during the inspection (**Appendix L-1**).

A detailed account of the investigation is contained in **Paragraph 6.2**.

6.2 Site Survey

On Tuesday morning, 13 August 2002, the site survey team drove north from the town of Ephrata, Washington, along State Highway 28 until reaching Lakeview Park (just south of Soap Lake). Here, they took Sheep Canyon Road to the northwest until reaching an intersection with a County Road (Whitehall Road SE). Turning north the team drove approximately 8-1/2 miles north to the center of the former **Ephrata Pattern Bombing Range No. 4**. The site is entirely in Douglas County and consists of Sections 5 and 6, Township 23 North (T23N), Range 26 East (R26E), and Sections 31 and 32, T24N, R26E. (Field Latitude (LAT) and Longitude (LON) readings for site locations given below were obtained with a GARMIN GPS using DATUM WGS-84.)

The team first proceeded to drive the local section roads along the FUDS boundary (includes Whitehall Road; see **Photo 1, Appendix I**), observing that the land usage is primarily agricultural (crop growing). Certain land tracts are preserved as natural high desert. Whitehall Road divides Sections 5 and 6, T23N, R26E, and then at the intersection of the four sections (bombing target center), turns 90° to the west and forms the boundary between Section 6, T23N, R26E, and Section 31, T24N, R26E. The team observed a small dump located in the far northeast corner of the target area. There was no visual evidence of any old practice bomb parts, or other DoD generated debris at this location. The team then parked their vehicle on the eastern boundary of Section 5, T23N, R26E, which section was observed to be mostly preserved in natural foliage common to high desserts (**Photo 3, Appendix I**). The team walked over much of Section 5, and did locate (near GPS N 47° 31' 16.7", W 119° 35' 6.1", and GPS N 47° 31' 33.5", W 119° 35'

2.0") and photograph (see **Photo 2, Appendix I**) evidence of the past use as a pattern bombing range (M38-series 100-pound practice bomb parts). After finishing the walk over Section 5, the team returned to their vehicle and continued to search for the target center. The target center is believed to have been positioned just south of the intersection of the four sections of land acquired by DoD for the pattern bombing range. It was also understood that the landowners previously collected practice bomb debris and piled these items up near the old target center. At LAT 47° 31' 21.6" N, LON 119° 35' 52.8" W, and at LAT 47° 31' 23.5" N, LON 119° 35' 49.1" W adjacent to Whitehall Road, two piles of bomb debris were discovered by the team (**Photo 4, Appendix I**). A walk about the general area confirmed that this position was likely near the original target circle.

Shortly after walking the site and photographing bomb debris, the team was preparing to depart, when landowner Paul Malone approach the team in his vehicle. He introduced himself, pointed out the general area where he and his employees had collected much of the bomb debris, and then asked if we saw any of the "rockets". After making this statement, he suggested that the team follow him to his residence where he would show us an example of this device. Safety Officer Randy Fraser identified Mr. Malone's Rocket as a miniature practice bomb from the Bomb, Practice, AN-Mk 5, AN-Mk 23, AN-Mk 43 series. After visiting with Mr. Malone, the team concluded the site survey task, returned to Spokane, Washington where they remained overnight before returning to St. Louis, MO the following day.

7.0 EVALUATION OF ORDNANCE POTENTIAL

7.1 Conventional Ordnance Contamination

The Site Survey, conducted on 13 August 2002, revealed no evidence of conventional High Explosive OE contamination on the property. Visual evidence of debris from M38-series 100-pound practice bombs utilizing the M3 or M4 spotting charge, confirms that conventional practice bombs were dropped on this target. Records research on historic activities indicate that it is unlikely that conventional hazardous ordnance items remain on this site. Records research on historic activities indicate that it is unlikely that conventional hazardous ordnance items remain on this site.

7.2 Chemical Warfare Material Contamination

Based upon the investigation of historical records reviewed and the results of the site survey, there is no evidence of Chemical Warfare Materials remaining on this site.

8.0 TECHNICAL DATA OF ORDNANCE AND EXPLOSIVES

8.1 Description of Ordnance

The following list depicts ammunition found on, or otherwise associated with **Ephrata Pattern Bombing Range No. 4**. Items selected may not be all inclusive. **Appendix C** contains the technical details of munitions identified.

Bomb, Practice, 100-lb, M38A1
Bomb, Practice, AN-Mk 5, AN-Mk 23, AN-Mk 43
Spotting Charge, M1A1
Signal, Practice Bomb, Mk 4

8.2 References

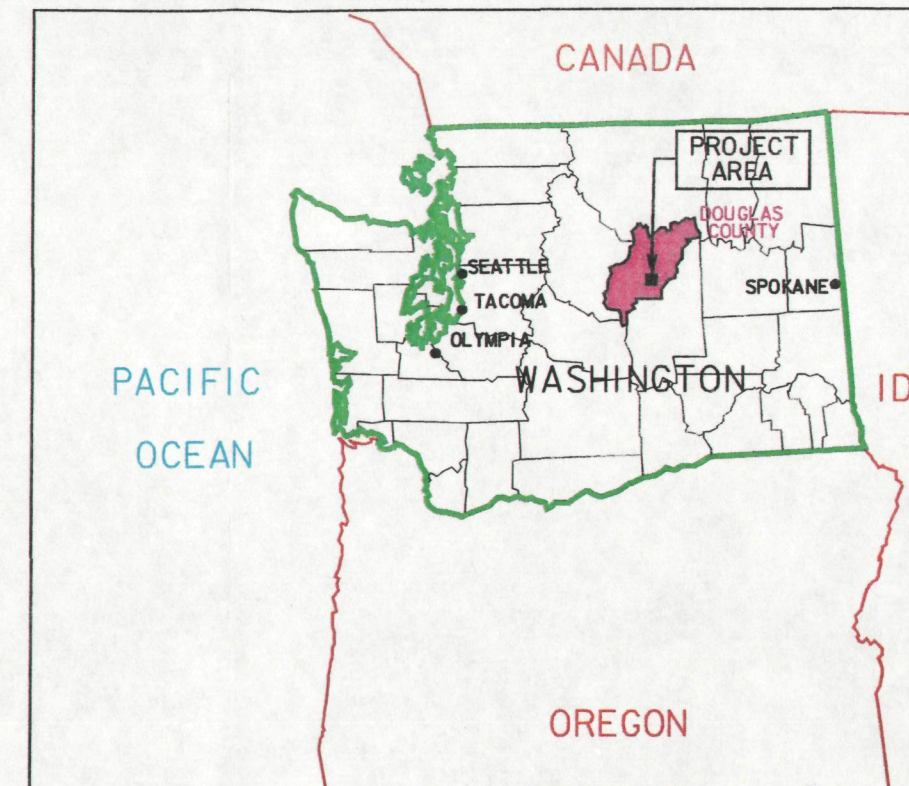
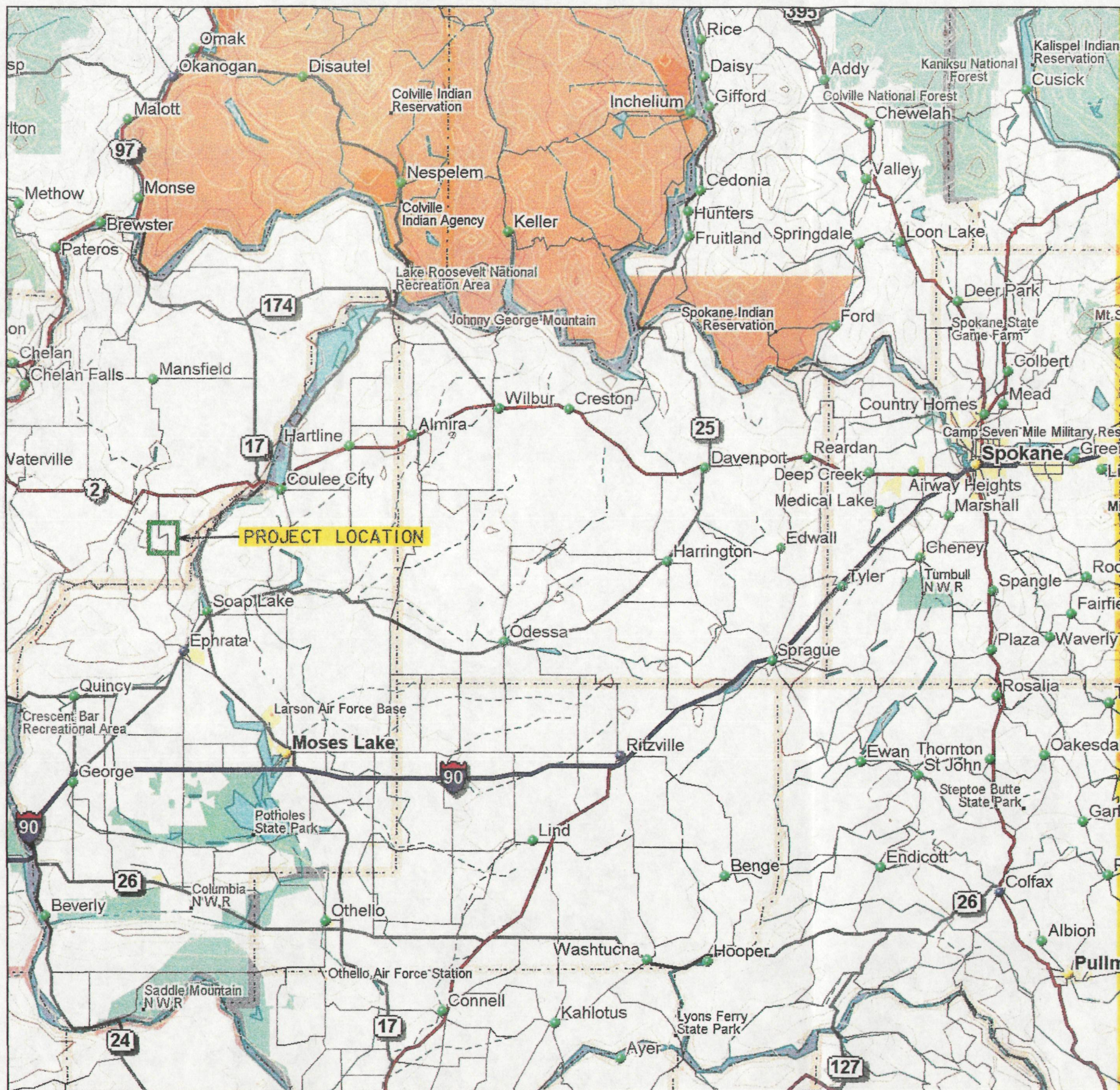
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NAVSEA OP 1664 Volume 2, *U.S. Explosive Ordnance*, February 1954
OP 1280, *Aircraft Bombs*, February 1945
Complete Round Chart #5981, October 1944

9.0 EVALUATION OF OTHER SITE INFORMATION

No additional categories of potential environmental concern associated with DoD use of the **Ephrata Pattern Bombing Range No. 4** were identified during the archive search.

REPORT PLATES

- Plate 1 Regional Location & Vicinity Map**
- Plate 2 Site Map**
- Plate 3 1949 Aerial Photo**



U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

EPHRATA PATTERN BOMBING
RANGE NO. 4
DOUGLAS COUNTY, WASHINGTON
DERP-FUDS NO. F10WA057901
REGIONAL LOCATION & VICINITY MAP

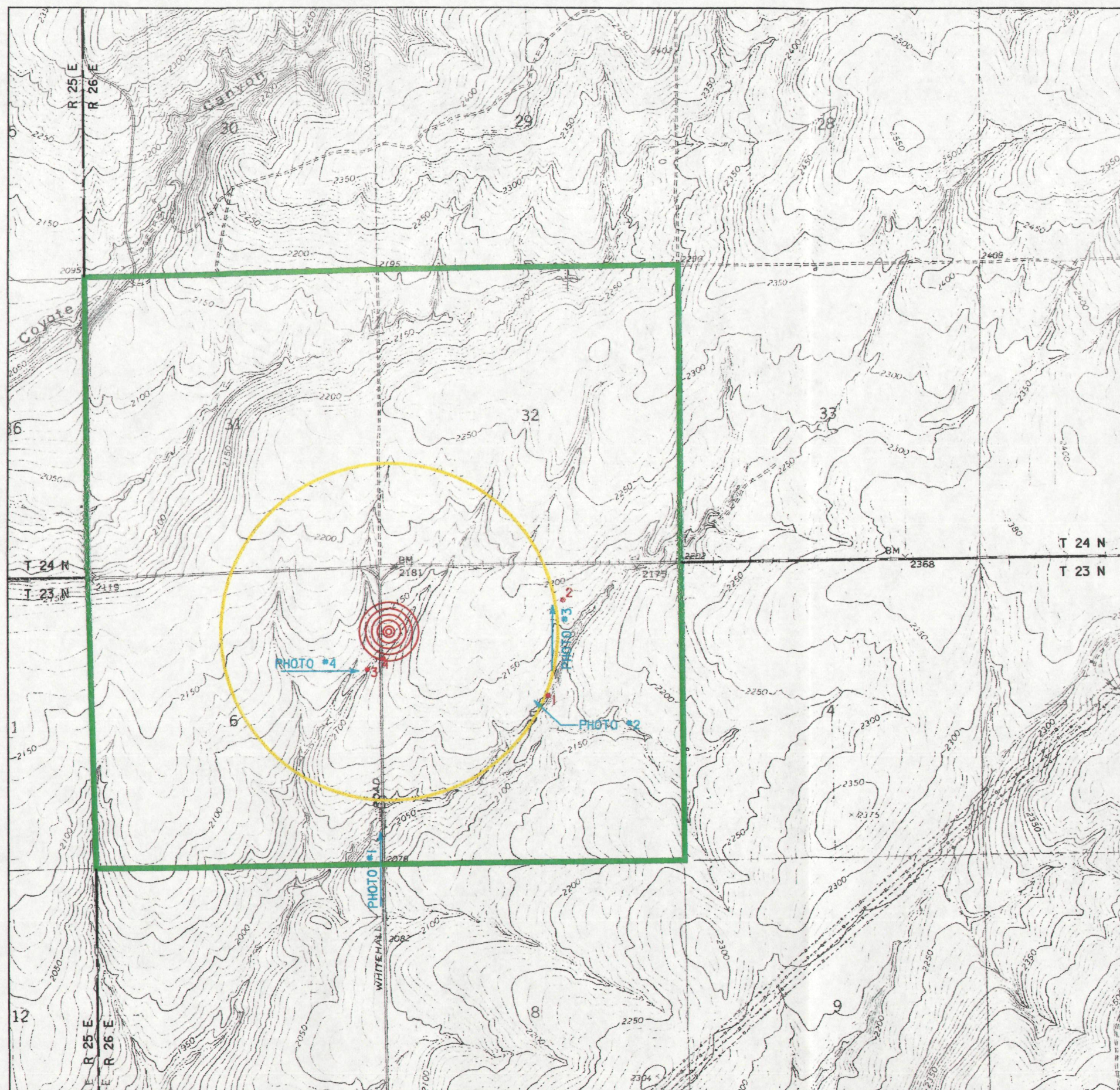
PROJ. DATE: AUG. 2002

DATE OF MAP: 2002

PLATE NO. 1

11-SEP-2002 13:41

Meow2002*Washington State*Ephrata P1BR*2*Ephrata_Vic.dgn



KEY TO FEATURES:

FEATURE
NUMBER

FEATURE
DESCRIPTION

1. BOMB DEBRIS:
N 47° 31' 16.7", W 119° 35' 06.1"
2. BOMB DEBRIS:
N 47° 31' 33.5", W 119° 35' 02.0"
3. PILE OF DUMPED PRACTICE BOMBS:
N 47° 31' 21.6", W 119° 35' 52.8"
4. PILE OF DUMPED PRACTICE BOMBS:
N 47° 31' 23.5", W 119° 35' 49.1"

LEGEND

- SITE LOCATION
- BOMBING RANGE TARGET
- BOMBING RANGE SAFETY FAN

0 2000 4000

APPROXIMATE SCALE IN FEET



U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

EPHRATA PATTERN BOMBING
RANGE NO. 4
DOUGLAS COUNTY, WASHINGTON
DERP-FUDS NO. F10WA057901
SITE MAP

PROJ. DATE: AUG. 2002

DATE OF QUADS: VARIOUS

PLATE NO.

12-SEP-2002 15:34

M:\toew2002\Washington State\Ephrata PTBR*2\Ephrata_Site.dgn

2

KEY TO FEATURES:

FEATURE
NUMBER

FEATURE
DESCRIPTION

1

950' DIAMETER CONCENTRIC RING TARGET
IS VISIBLE. SMALL, LINEAR CLEARED AREAS
TO THE IMMEDIATE NORTH OF THE TARGET
SHOW NO SIGNS OF MILITARY USE. SIGNIFICANT
SCARRING OR CRATERING IS NOT VISIBLE IN THE
STUDY AREA.

LEGEND



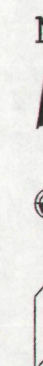
SITE LOCATION



BOMBING RANGE SAFETY FAN

0 1200 2400

APPROXIMATE SCALE IN FEET



U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

EPHRATA PATTERN BOMBING
RANGE NO. 4
DOUGLAS COUNTY, WASHINGTON
DERP-FUDS NO. F10WA057901
1949 AERIAL PHOTO

PROJ. DATE: AUG. 2002
11-SEP-2002 16:43

DATE OF PHOTO: 1949

PLATE NO. 3

APPENDICES

- A REFERENCES**
- B GLOSSARY AND ACRONYMS**
- C TEXT/MANUALS**
- D REPORTS/STUDIES**
- E LETTERS/MEMORANDA/MISCELLANEOUS ITEMS**
- F REAL ESTATE DOCUMENTS**
- G NEWSPAPER/JOURNALS (Not Used)**
- H INTERVIEWS**
- I PRESENT SITE PHOTOGRAPHS**
- J HISTORICAL PHOTOGRAPHS (Not Used)**
- K HISTORICAL MAPS/DRAWINGS**
- L SITE SAFETY AND HEALTH PLAN / SITE INSPECTION
REPORT**
- M REPORT DISTRIBUTION LIST**

APPENDIX A

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APPENDIX A - REFERENCES

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APPENDIX B

GLOSSARY AND ACRONYMS

APPENDIX B - GLOSSARY AND ACRONYMS

AAF	Army Air Field
AA	Anti-Aircraft
AEC	Army Environmental Center
AGO	Adjutant General's Office
AP	Armor Piercing
APDS	Armor Piercing Discarding Sabot
APERS	Antipersonnel
APT	Armor Piercing with Tracer
ASR	Archives Search Report
ATG	Air-to-Ground
Aux	Auxiliary
BAR	Browning Automatic Rifle
BD	Base Detonating
BD/DR	Building Demolition/Debris Removal
BE	Base Ejection
BGR	Bombing and Gunnery Range
BLM	Bureau of Land Management
BRAC	Base Realignment And Closure
CADD	Computer-Aided Design/Drafting
Cal	Caliber
CBDA	Chemical and Biological Defense Agency
CBDCOM	Chemical and Biological Defense Command
CE	Corps of Engineers
CEHNC	Corps of Engineers, Engineering and Support Center, Huntsville
CEHND	Corps of Engineers, Huntsville Division
CELMS	Corps of Engineers, St. Louis
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
cfs	Cubic Feet Per Second
COE	Chief of Engineers
COMP	Composition
CTG	Cartridge
CSM	Chemical Surety Material
CSM	Command Sergeant Major
CWM	Chemical Warfare Material
CWS	Chemical Warfare Service
DA	Department of the Army
DARCOM	Development and Readiness Command
DERA	Defense Environmental Restoration Account

DERP	Defense Environmental Restoration Program
DERP-FUDS	Defense Environmental Restoration Program- Formerly Used Defense Sites
DoD	Department of Defense
DOE	Department of Energy
DOI	Department of Interior
E	East
EE/CA	Engineering Evaluation/Cost Analysis
EIS	Environmental Impact Statement
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
ERDA	Environmental Restoration Defense Account
FDE	Findings and Determination of Eligibility
FFMC	Federal Farm Mortgage Corporation
FORSCOM	Forces Command
FS	Feasibility Study
FUDS	Formerly Used Defense Sites
GIS	Graphic Information System
GSA	General Services Administration
HC	Hexachoroethane
HE	High Explosive
HEAT	High Explosive Anti-Tank
HEI	High Explosive Incendiary
HEP	High Explosive Plastic
HQUSACE	Headquarters, U.S. Army Corps of Engineers
HTRW	Hazardous Toxic and Radioactive Waste
HTW	Hazardous and Toxic Waste
IAS	Initial Assessment Study
ILLUM	Illuminating
INPR	Inventory Project Report
IRP	Installation Restoration Program
MCX	Mandatory Center of Expertise
MG	Machine Gun
MG	Major General
MM/mm	Millimeter
MT	Mechanical Time
MTSQ	Mechanical Time Super Quick
N	North
NARA	National Archives and Records Administration
NAS	Naval Air Station
NCDC	National Climatic Data Center
NCP	National Contingency Plan
NFS	National Forest Service
NG	National Guard

NGVD	National Geodetic Vertical Datum
NOAA	National Oceanic and Atmospheric Administration
NOFA	No Further Action
NPRC	National Personnel Records Center
NRC	National Records Center
OE	Ordnance and Explosive
OSHA	Occupational Safety and Health Administration
PA	Preliminary Assessment (Enhanced)
PD	Point Detonating
PIBD	Point Initiating, Base Detonating
PL	Public Law
PM	Project Management
QASAS	Quality Assurance Specialist - Ammunition Surveillance
R	Range
RA	Removal Action
RAC	Risk Assessment Code
RD	Remedial Design
RD/RA	Remedial Design/Remedial Action
RG	Record Group
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
S	South
SARA	Superfund Amendments and Reauthorization Act
SCS	Soil Conservation Service
SLD	St. Louis District, Corps of Engineers
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
SWMU	Solid Waste Management Units
T	Township
TECOM	Test Evaluation Command
TEU	Technical Escort Unit
TM	Technical Management
TNT	Trinitrotoluene
TP	Target Practice
USA	United States of America
USACE	U.S. Army Corps of Engineers
USADACS	U.S. Army Defense Ammunition Center and School
USAED	U.S. Army Engineer District
USAESCH	U.S. Army Engineering and Support Center, Huntsville, Alabama
USATHMA	U.S. Army Toxic and Hazardous Materials Agency
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service

USGS	U.S. Geological Survey
UXO	Unexploded Ordnance
W	West
WAA	War Assets Administration
WD	War Department
WNRC	Washington National Records Center
WW I	World War I
WW II	World War II

APPENDIX C

TEXTS/MANUALS

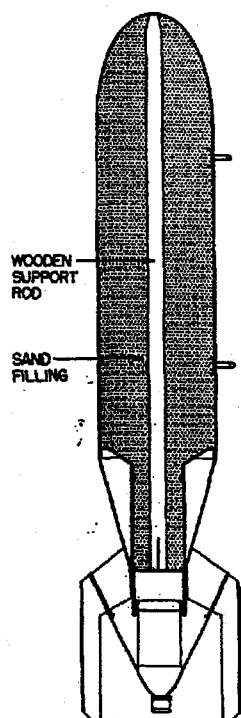
APPENDIX C - TEXTS/MANUALS

- C-1 Bomb, Practice, 100 Pound, M38A2**
- C-2 Miniature Practice Bombs AN-Mk 5 Mod 1, AN-Mk 23, AN-Mk 43**
- C-3 Spotting Charges, M1A1, M3, M5**
- C-4 Signal, Practice Bomb, Mk 4 Mod 3 & 4**

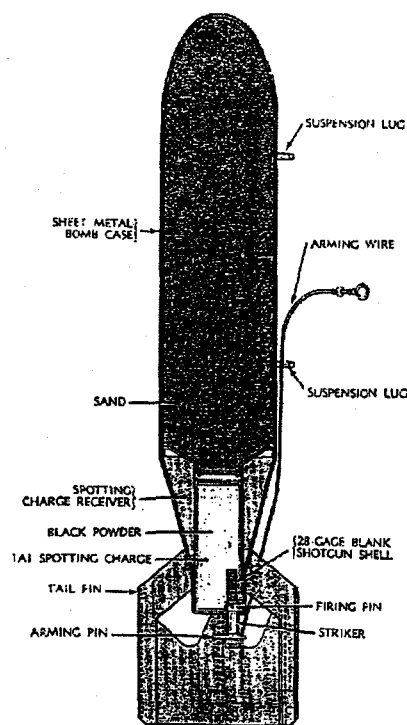
APPENDIX C-1

Bomb, Practice, 100 Pound, M38A2

BOMB, PRACTICE, 100 POUND, M38A2



with M5 spotting charge



with M1A1 spotting charge

Description. This bomb simulates a General Purpose bomb of the same size. It is constructed of light sheet metal, approximately 22-gage, formed by rolling a rectangular sheet of metal into the form of a cylinder approximately 8 inches in diameter, and spot-welding the seam. The rounded nose is pressed from the same metal, as is the tail, which is formed in the shape of a cone. The tail portion ends in box type fins, which is welded to the cone. Inside of the smaller end of the conical tail section is welded the spotting charge receiver. The spotting charge is assembled in a sleeve at the base of the bomb, within the fin box. Authorized spotting charges are the M1A1, M3, and M5. When using the M5 spotting charge a wooden support rod is installed in the bomb. Two suspension lugs are bolted to the bomb body during fabrication. The Suspension Band M1 is provided for single suspension. The band is a separate component. The over-all length of the bomb body is 47.2 inches. When empty, the bomb body weighs approximately 14 pounds. When completely loaded with sand and spotting charge, the weight of the bomb is approximately 100 pounds.

Over-all length.....47.5 inches
Diameter8.13 inches
Weight empty15.7 pounds
Weight sand loaded & spotting charge.....100 pounds

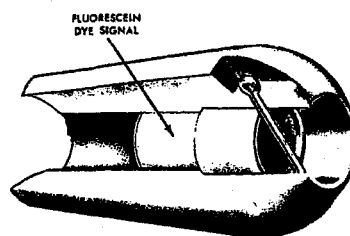
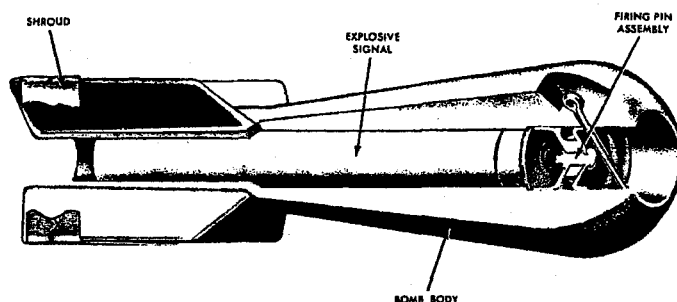
Reference: TM 9-1904, *Ammunition Inspection Guide*, March 1944; NAVSEA OP 1664 Volume 2, *U.S. Explosive Ordnance*, February 1954; *Complete Round Chart #5981*, October 1944

APPENDIX C-2

**Miniature Practice Bombs AN-Mk 5 Mod 1,
AN-Mk 23, AN-Mk 43**

MINIATURE PRACTICE BOMBS

AN-Mk 5 Mod 1, AN-Mk 23, AN-Mk 43



ORD D1160

Description. These bombs are used for low-altitude horizontal, or dive-bombing practice. The three bombs are similar in physical appearance, but differ basically in the metal used to cast the body. Bombs are used with the AN-Mk 4 practice bomb signal that is a blank 10-gauge shotgun shell (extended length). Signals contain a black powder expelling charge and a red phosphorous pyrotechnic mixture. These bombs also are used with the MK5 signal that contains a fluorescein dye and is actuated by impact on water. When the Mk5 signal is installed, the firing pin assembly is not used.

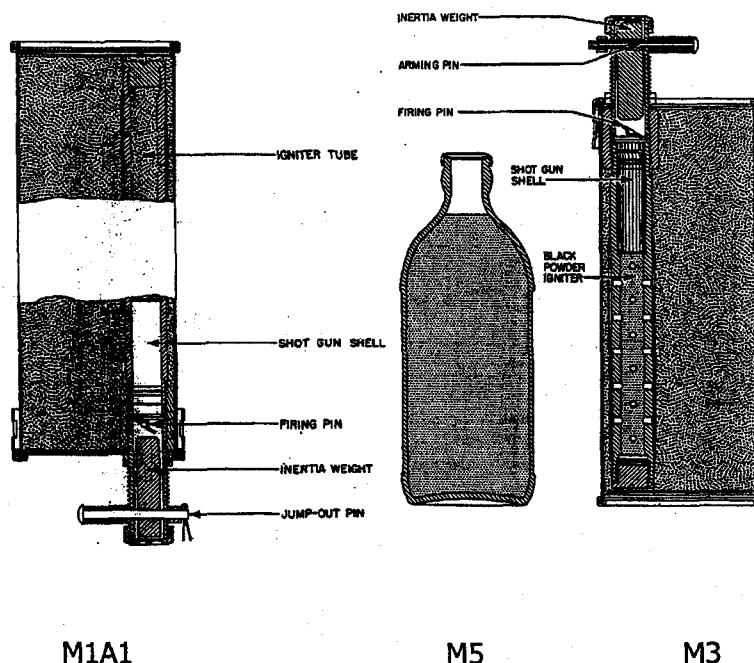
Over-all length	8.25 inches
Body Diameter	2.18 inches
Fin Dimension	2.5 inches
Weight	AN-Mk 5 Mod 1 – 2 lb. 11 oz. \pm 1 oz AN-Mk 23 – 3 lb \pm 2 oz AN-Mk 43 – 4 lb. 7 oz. \pm 2 oz.
Signal	AN-Mk 4, Black powder/pyro-technic charge; Mk 5, Fluorescein dye

Reference: OP 1280, *Aircraft Bombs*, February 1945; TM 9-1325-200, *Bombs and Bomb Components*, April 1966

APPENDIX C-3

Spotting Charges, M1A1, M3, M5

SPOTTING CHARGES, M1A1, M3, M5



M1A1 Spotting Charge. This type of spotting charge fits in the after end of the 100-pound Practice Bomb M38A2. It produces a flash of flame and white smoke for observation of bombing accuracy. It is made from a large tin can, 11.18-inches long, 3.43-inches diameter, weighing 4.25-pounds. At the top of the can is a cover, which has a hole in it for the insertion of a 28-gage blank shotgun shell and firing mechanism. Upon impact, the inertia weight drives the firing pin into the shotgun-type primer, igniting the 3-pounds of black powder.

M3 Spotting Charge. The spotting charge has a 2 1/3-pound dark smoke filling and a black-powder igniter. It is 5/8 of an inch longer than the Spotting Charge M1A1, but otherwise similar. The M3, with its dark smoke filler, is well adapted for bombing practice over snow-covered terrain. The black-powder igniter charge contains approximately 425 grains. It is used in the M38A2 Practice bomb.

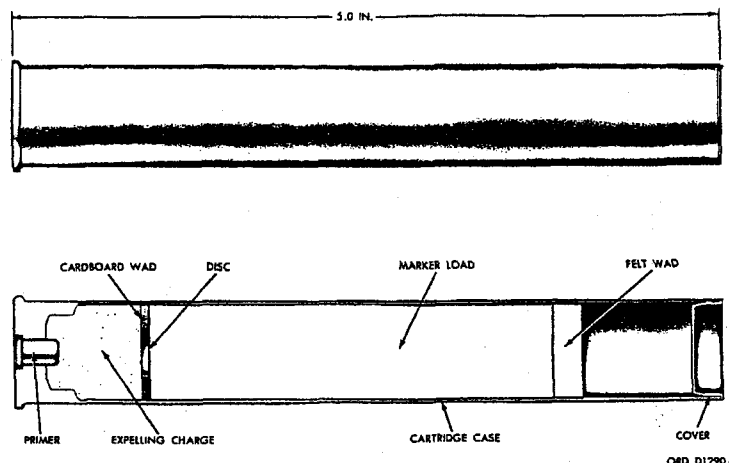
M5 Spotting Charge. The spotting charge consists of a glass bottle filled with FS smoke mixture. An ordinary bottle cap seals the mixture. The bottle is held to the Practice Bomb M38A2 by a wire twisted around the neck of the bottle and attached to the tail vanes. The charge assembly weighs 2.54 pounds.

Reference: TM 9-1904, *Ammunition Inspection Guide*, March 1944; NAVSEA OP 1664 Volume 2, *U.S. Explosive Ordnance*, February 1954

APPENDIX C-4

Signal, Practice Bomb, Mk 4 Mod 3 & 4

SIGNAL, PRACTICE BOMB, Mk 4 Mod 3 & 4



Description. Practice Bomb signals Mk 4 Mods 3 and 4 are essentially 10-gauge shotgun shells. They contain an expelling charge of smokeless powder and are primed with a commercial primer. A pyrotechnic or inert marker load is separated from the expelling charge by a disc and cardboard gun wad. Felt gun wads that are cemented to the cover close the end of the shell.

Use. The signals are used in either the miniature or the larger practice bombs. However, installed in the miniature practice bombs, the signals do not consistently produce a visible signal when dropped from an altitude of 10,000 feet or higher. Released from that height, the bomb enters the water or earth so quickly that the signal frequently does not have time to function.

Functioning. When the practice bomb in which the signal is installed strikes water or the earth, impact causes the firing pin in the nose of the bomb to impinge upon the primer of the signal. The primer ignites the expelling charge, forcing the marker load out through an opening in the bomb. The resulting flash and puff of white smoke permit observation of bombing accuracy.

Differences. Signals Mk 4 Mod 0 was the first of this type developed. Mods 1 and 2 were procured later for issue to activities limited by environment to performing practice bombing in the vicinity of flammable areas. These signals contain inert materials that produce very little flash and are markedly inferior to the Mod 0. Mod 3 is similar to the Mod 0 but differs in that the cartridge case of the Mod 3 is extruded aluminum instead of paper; a primer mixture with improved storage characteristics has been used, a new pyrotechnic load has been incorporated. The Mod 4 signal is similar to the Mod 3 with the exception of an inert marker load of zinc oxide. In both Mods, the cover and cartridge case are cemented together; in Mod 3 the assembly also is staked in four equally spaced places.

Length and diameter	6.0 in by 0.85 in
Expelling charge	Smokeless powder
Marker load	Mod 3 Stabilized Red Phosphorous
	Mod 4 Zinc Oxide

Reference: TM 9-1325-200, *Bombs and Bomb Components*, April 1966

APPENDIX D
REPORTS/STUDIES

APPENDIX D - REPORTS/STUDIES

D-1 U.S. Army Corps of Engineers, Seattle District

1996 Defense Environmental Restoration Program, Formerly Used Defense Sites, Findings and Determination of Eligibility, **Ephrata Pattern Bombing Range No. 4**, Douglas County, Washington, Project No. F10WA057901. District Files. U.S. Army Corps of Engineers, Seattle District Office, Seattle, Washington.

APPENDIX D-1

**U.S. Army Corps of Engineers,
Seattle District
1996**

**Defense Environmental Restoration Program,
Formerly Used Defense Sites, Findings and
Determination of Eligibility, Ephrata Pattern
Bombing Range No. 4, Douglas County,
Washington, Project No. F10WA057901.
District Files. U.S. Army Corps of Engineers,
Seattle District Office, Seattle, Washington.**

CENWD-MT-MH (200)

26 NOV 2001


MEMORANDUM FOR CDR, SEATTLE DISTRICT, ATTN: CENWS-PM-HW

SUBJECT: DERT-FUDS Inventory Project Report (INPR) Requiring an Ordnance and Explosives (OE) Engineering Evaluation and Cost Analysis (EE/CA)

1. Reference memorandum, CEHNC-OE-AI, 12 June 1996, subject as above (copy enclosed), regarding Ephrata Pattern Bombing Range #4, Douglas and Grant Counties, Washington.
2. HNC recommended project approval to HQUSACE in 1996. However, a project approval memorandum was apparently never generated. Project approval authority was subsequently delegated to the Divisions. This memorandum serves to document approval of OE Project No. F10WA057901, Ephrata Pattern Bombing Range. In accordance with the enclosed memorandum, the Risk Assessment Code is 3.
3. Please ensure that FUDSMIS is updated to reflect the approval.
4. Any questions may be referred to David Nusz at (402) 697-2523.

FOR THE COMMANDER:

Encl
as


TEDDIE R. KELL, P.E.
Chief, Military/HTRW/SFO Division

CF w/o Encl;
CEMP-RF (Moeller)
CEHNC-OE-DC (Douglas)
CENWO-IX-T (K. Peterson)
CENWD-MT-MH (Nusz)

REPLY TO
ATTENTION OFDEPARTMENT OF THE ARMY
HUNTSVILLE DIVISION, CORPS OF ENGINEERS
P.O. BOX 1600
HUNTSVILLE, ALABAMA 35807-4301

CEHNC-OE-AI (200-1c)

12 June 1996

MEMORANDUM FOR Commander, HQUSACE, ATTN: CEMP-RF,
20 Massachusetts Avenue NW, Washington, DC
20314-1000SUBJECT: DERP-FUDS Inventory Project Report (INPR) Requiring an
Ordnance and Explosives (OE) Engineering Evaluation and Cost
Analysis (EE/CA)

1. The enclosed INPR has been submitted for further investigation or action by the Huntsville Engineering and Support Center. We have reviewed the INPR and recommend a phased EE/CA be scheduled for the following site:

DIVISION	PROJECT NO.	RAC	SITE NAME
NPD	F10WA057901	3	Ephrata Pattern Bombing Range #4 (encl)

2. A cost model and risk assessment code score is included with the enclosure. The POC is Ms. Carrie Douglas at 205-895-1465 or Mr. Bill McPherson at 205-895-1595.

FOR THE DIRECTOR, ORDNANCE
AND EXPLOSIVES TEAM:

Encl

Karl E. Blankinship
KARL E. BLANKINSHIP, P.E.
Manager, Ordnance and
Explosives Team

CF:

Commander, U.S. Army Engineer Division, North Pacific,
ATTN: CFNPD-PM-M, P.O. Box 2870, Portland, OR 97208-2870
Commander, U.S. Army Engineer District, Seattle,
ATTN: CENPS-EN-GT-EM, P.O. Box 3755, Seattle, WA 98124-2255



DEPARTMENT OF THE ARMY
NORTH PACIFIC DIVISION, CORPS OF ENGINEERS
P.O. BOX 2870
PORTLAND, OREGON 97208-2870

Reply to
Attention of:

CENPD-PM-M (200-1a)

10 APR 1996 055

MEMORANDUM FOR CDR, U.S. Army Engineering & Support Center,
Huntsville, (CEHNC-PM-E), P.O. BOX 1600,
Huntsville, AL 35807-4301

SUBJECT: Defense Environmental Restoration Program for Formerly Used
Defense Sites (DERP-FUDS); Inventory Project Report (INPR), for Site
No. F10WA057900, Ephrata Pattern Bombing Range #4, Douglas and Grant
Counties, Washington

1. I am forwarding the subject INPR for your action. This site is determined to be a formerly used defense site (FUDS). The proposed project is eligible for funding under the DERP-FUDS program.
2. I recommend that CEHND review the proposed ordnance and explosive waste (OEW) project and take the necessary actions.
3. The CENPD-PM-MP POC for this action is Mr. Moon-Yong Han, P.E., (503) 326-7361.

Encl
Memo, CENPS-EN-GT-EM
22 March 1996

CF (w/o encl)
CEMP-RF
CENPS-PM

RUSSELL L. FUHRMAN
Major General, USA
Commanding



DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-2255

MAR 22 1996

CENPS-EN-GT-EM (200-1a)

MEMORANDUM FOR Commander, U.S. Army Engineer Division,
North Pacific, ATTN: CENPS-PM-MP, P.O.
Box 2870, Portland, Oregon 97208-2870

SUBJECT: Defense Environmental Restoration Program for
Formerly Used Defense Sites (DERP-FUDS) Inventory Project
Report (INPR) for Site No. F10WA057900, Ephrata Pattern
Bombing Range #4, Douglas and Grant Counties, Washington.

1. The enclosed INPR presents the DERP-FUDS Preliminary Assessment (PA) for the above facility. A site visit was conducted on 2 November 1995. The site survey summary sheet and site map are included in the INPR.
2. We have determined that the site was formerly used by the United States Army. A recommended Findings and Determination of Eligibility (FDE) is included in the INPR.
3. Also, we have determined that there is a potential for ordnance or explosive waste (OEI) at the site which would be eligible for further evaluation and possible remediation under DERP-FUDS.
4. Seattle District Counsel has reviewed this INPR and concurs with site and project eligibility determinations.
5. I recommend:
 - a. Approval and signing the FDE;
 - b. Forwarding a copy of this INPR to CEHND requesting that they determine what further action is required and appropriate at this site.

Encls
as

A handwritten signature in dark ink, appearing to read "Donald T. Wynn".
DONALD T. WYNN
Colonel, Corps of Engineers
Commanding

SITE SURVEY SUMMARY SHEET
FOR
DERP-FUDS SITE NO. F10WA057900
EPHRATA PATTERN BOMBING RANGE #4
DOUGLAS AND GRANT COUNTIES, WASHINGTON
MARCH 1996

SITE NAME: Ephrata Pattern Bombing Range #4.

LOCATION: Douglas and Grant Counties, Washington (see attached map).

SITE HISTORY: The Ephrata Pattern Bombing Range #4 was established in late 1943 to provide a training facility for the U.S. Army 2nd Air Force assigned to the Ephrata Army Air Field (F10WA028100), Ephrata, Washington. The former range, consisting of 2460.12 acres leased from private owners and Douglas County, is located approximately 14 miles north of Ephrata. The leases were terminated in September and October of 1946. The site is flat, open, treeless land used for crops and stock grazing.

The Ephrata Army Air Field, active from 1942 to 1945, was initially a training facility for B-17 and B-24 bomber crews (June 1942 and December 1943). Since Range #4 was established after June 1943, it would appear that use of the property for bombing activity may have been rather brief. Documents indicate incendiary and demolition bombs including 300, 500 and 1000 pounders, and M38A2 100 pound training bombs (sand filled) were stored on base and may have been used at Range #4. (See Draft Archive Search Report, Ephrata Army Air Field, Grant County WA, F10WA028100, June 1994, prepared by St. Louis District.)

From December 1943 to April 1944 the air field was on stand-by status and designated as a sub-port of McChord Army Air Field near Tacoma. It was then reactivated for 4th Air Force fighter pilot training in P-38, P-39 and P-63 aircraft. This mission continued until February 1945 when the base returned to stand-by under McChord. No indication of use of Range #4 during this re-activation period was found.

In July and August 1945, Ephrata Army Air Field was briefly re-activated for 4th Air Force B-24 bomber crew training and then returned to stand-by. It is not known if Range #4 was in use at this time.

The documents consulted did not identify any military structures constructed at the facility; however, a long-time property owner reported knowing of a target located on his land in the western half of the range. Reports of bomb fragments and occasionally training bombs with intact spotting devices came from two informants, but no one

DERP-FUDS SITE NO. F10WA057900 cont.

interviewed could recall any finds of unexploded HE ordnance or incendiaries.

SITE VISIT: A site visit was conducted on 2 November 1995 by David Wigle and Victor Ramos, CENPS-EN-GT-ET. While on the site, they spoke with Mr. Paul Malone and Mr. Wesley Roberts, property owners. Other owners were contacted by telephone before and after the site visit. A small pile of bomb fragments collected by one property owner was observed.

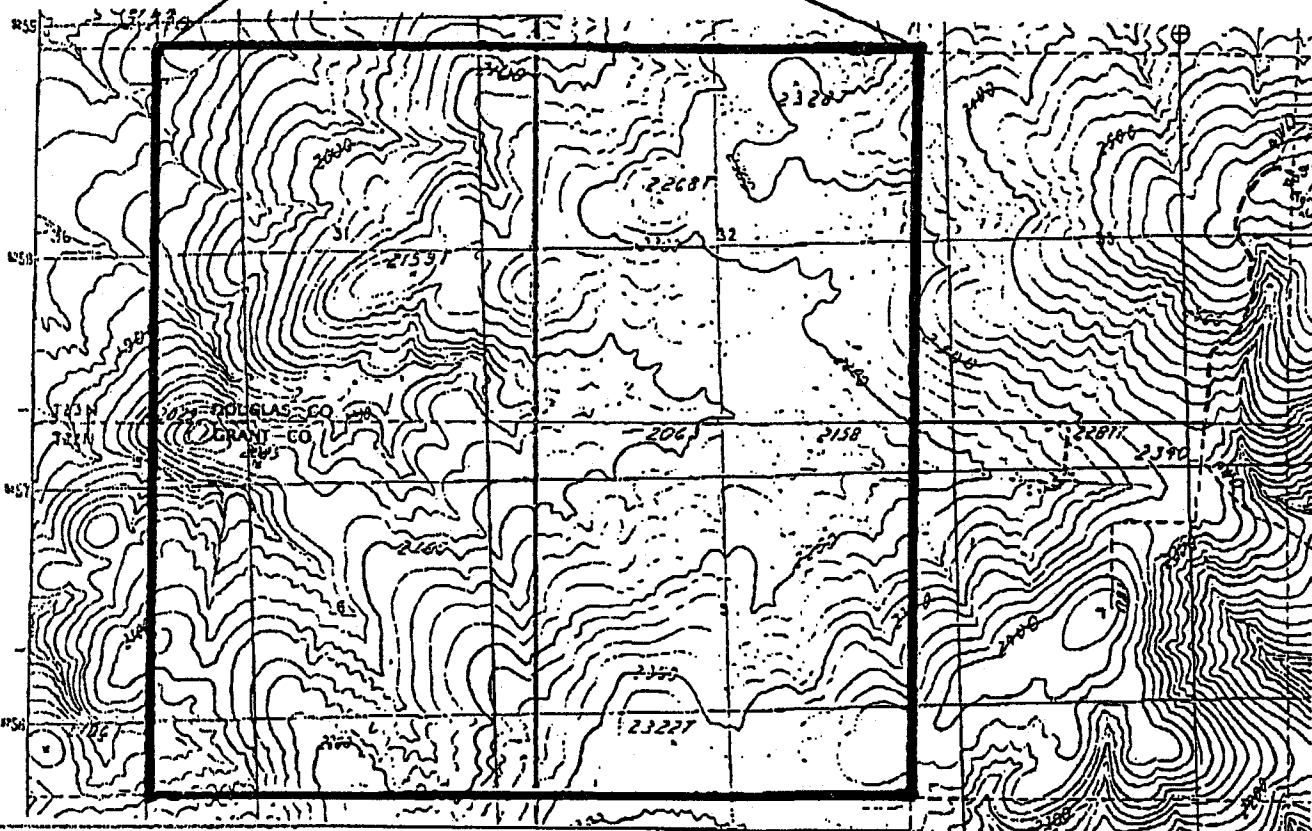
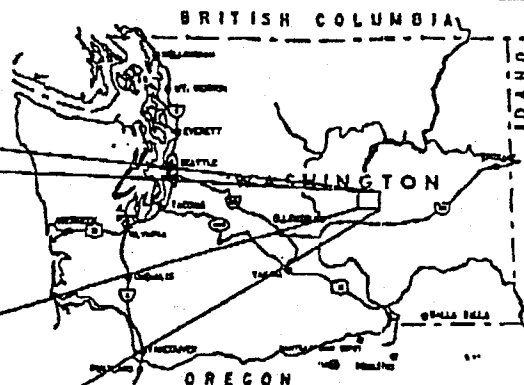
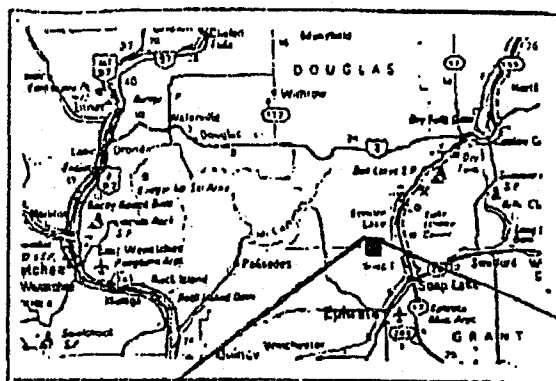
CATEGORY OF HAZARD: OEW.

PROJECT DESCRIPTION: Bomb debris and, occasionally, intact spotting charges, have been found at various locations within the boundaries of Range #4 for nearly 50 years. There is a possibility that HE demolition and incendiary bombs may also have been used.

AVAILABLE STUDIES AND REPORTS: Various historical materials and real estate records.

SEATTLE DISTRICT PROGRAM POC: Robert L. Monson, CENPS-PM-PM, (206) 764-6587.

SEATTLE DISTRICT PROJECT POC: Jonathan A. Maas, CENPS-EN-GT-EM, (206) 764-6745.



SITE VICINITY & LOCATION MAP
EPHRATA PATTERN BOMBING RANGE
EPHRATA, WA
SITE NO. F1OWA057900

LEGEND:

NOT TO SCALE



SITE LOCATION

USArmy Corp of Engineers
Seattle District
DERP-FUDS



DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
FOR FORMERLY USED DEFENSE SITES
FINDINGS AND DETERMINATION OF ELIGIBILITY

Ephrata Pattern Bombing Range #4
Douglas and Grant Counties, Washington

Site No. F10WA057900

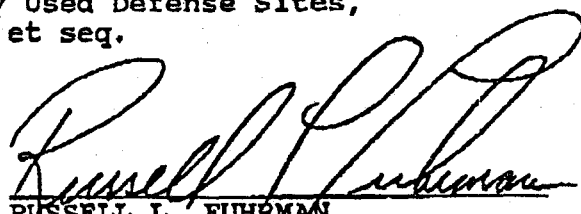
FINDINGS OF FACT

1. The former Ephrata Pattern Bombing Range #4 is located in Douglas and Grant Counties, 14 miles north of the town of Ephrata, Washington. The site consisted of 16 contiguous tracts totaling 2,460.12 acres acquired by leases in 1943.
2. The site was used by Army Air Corps units attached to the Ephrata Army Air Field for bombing practice.
3. The leases were terminated in September and October 1946.

DETERMINATION

Based on the foregoing findings of fact, the site has been determined to be formerly used by the Department of Defense. It is therefore eligible for the Defense Environmental Restoration Program - Formerly Used Defense Sites, established under 10 USC 2701 et seq.

12 Apr 1996
DATE


RUSSELL L. FUHRMAN
Major General, USA
Commanding

PROJECT SUMMARY SHEET

FOR

DERP-FUDS OEW PROJECT F10WA057901
EPHRATA PATTERN BOMBING RANGE #4
DOUGLAS AND GRANT COUNTIES, WASHINGTON
SITE NO. F10WA057900
MARCH 1996

PROJECT DESCRIPTION: Metal bomb debris and, occasionally, intact spotting charges have been found at various locations within the boundaries of Range #4 for nearly 50 years. There is a possibility that HE demolition and incendiary bombs may also have been used at the site.

PROJECT ELIGIBILITY: The property was controlled and used by the Army between 1943 and 1946.

POLICY CONSIDERATIONS: Potential OEW sites with a RAC of 4 or higher are to be referred to CEHND for recommendations for further action.

PROPOSED ACTIVITIES: The INPR should be referred to CEHND for recommendations for further action.

RAC: II-C, 3 (Form attached).

SEATTLE DISTRICT PROJECT POC: Jonathan A. Maas, CENPS-EN-GT-EM, (206) 764-6745.

17 March 1995
Previous editions obsolete

RISK ASSESSMENT PROCEDURES FOR ORDNANCE AND EXPLOSIVE WASTE (OEW) SITES

Site Name Ephrata Pattern Bomb Rng #4
Site Location Ephrata, WA
DERP Project # F10WA057900
Date Completed 21 May 96

Rater's Name Bill McPherson
Phone No. (206) 895-1595
Organization CEHNC-OE-AI
RAC Score 3

OEW RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The RAC score will be used by CEHND to prioritize the remedial action at Formerly Used Defense Sites. The EXO risk assessment should be based upon best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. This information is used to assess the risk involved based upon the potential OEW hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability. Personnel involved in visits to potential OEW sites should view the CEHND videotape entitled "A Life Threatening Encounter: OEW."

Part I. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel exposure to various types and quantities of unexploded ordnance items.

TYPE OF ORDNANCE (Circle all values that apply)

A.	Conventional Ordnance and Ammunition	VALUE
	Medium/Large Caliber (20 mm and larger)	10
	Bombs, Explosive	10
	Grenades, Hand and Rifle, Explosive	10
	Landmines, Explosive	10
	Rockets, Guided Missiles, Explosive	10
	Detonators, Blasting Caps, Fuzes, Boosters, Bursterns	6
	Bombs, Practice (w/spotting charges)	6
	Grenades, Practice (w/spotting charges)	4
	Landmines, Practice (w/spotting charges)	4
	Small Arms (.22 cal - .50 cal)	1
	Small Arms, Expended	0

Conventional Ordnance and Ammunition (Select the largest single value)

10

What evidence do you have regarding conventional EXO? HE and practice bombs were dropped

B. Pyrotechnics (For munitions not described above.)

	VALUE
Munition (Container) Containing White Phosphorus or other Pyrophoric Material (i.e., Spontaneously Flammable)	10
Munition Containing A Flame or Incendiary Material (i.e., Napalm, Triethylaluminum Metal Incendiaries)	6
Flares, Signals, Simulators	4

Pyrotechnics (Select the largest single value)

6

What evidence do you have regarding pyrotechnics? Reported at the Air Base, may have been dropped

C. Bulk High Explosives (Not an integral part of conventional ordnance; uncontainerized.)

	VALUE
Primary or Initiating Explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10
Demolition Charges	10
Secondary Explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8
Military Dynamite	6
Less Sensitive Explosives (Ammonium Nitrate, Explosive D, etc.)	3

High Explosives (Select the largest single value)

0

What evidence do you have regarding bulk explosives? None

D. Bulk Propellants (Not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized)

	VALUE
Solid or Liquid Propellants	6
Propellants	<u>0</u>

What evidence do you have regarding bulk propellants? None

E. Chemical Warfare Material and Radiological Weapons

	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25
War Gas Identification Sets	20
Radiological	15
Riot Control Agents (Vomiting, Tear)	5

Chemical and Radiological (Select the largest single value)

0

What evidence do you have of chemical/radiological OEW? None

TOTAL HAZARD SEVERITY VALUE

16

(Sum of Largest Values for A through E—Maximum of 61)

Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY*

Description	Category	Hazard Severity Value
CATASTROPHIC	I	21 and greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLECTIBLE	IV	1 to 4
**NONE		0

Apply Hazard Severity Category to Table 3.

**If Hazard Severity Value is 0, you do not need to complete Part II. Proceed to Part III and use a RAC Score of 5 to determine your appropriate action.

Part II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF OEW HAZARD
(Circle all values that apply)

A. Locations of OEW Hazards

	VALUE
On the surface	5
Within Tanks, Pipes, Vessels or Other confined locations.	4
Inside walls, ceilings, or other parts of Buildings or Structures.	3
Subsurface	2

Location (Select the single largest value)

5

What evidence do you have regarding location of OEW? HE and practice debris visible and probable to lie subsurface.

B. Distance to nearest inhabited locations or structures likely to be at risk from OEW hazard (roads, parks, playgrounds, and buildings).

	VALUE
Less than 1250 feet	5
1250 feet to 0.5 miles	4
0.5 miles to 1.0 mile	3
1.0 mile to 2.0 miles	2
Over 2 miles	1

Distance (Select the single largest value)

2

What are the nearest inhabited structures? Farm house

C. Number of buildings within a 2 mile radius measured from the OEW hazard area, not the installation boundary.

	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0

Number of Buildings (Select the single largest value)

1

Narrative Farm

D. Types of Buildings (within a 2 mile radius)

	VALUE
Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers	5
Industrial, Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
No Buildings	0

Types of Buildings (Select the largest single value)

5

Describe types of buildings in the area. Farm

E. Accessibility to site refers to access by humans to ordnance and explosive wastes. Use the following guidance:

BARRIER	VALUE
No barrier or security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier, (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3
Security guard, but no barrier	2
Isolated site	1
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility; or An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility).	0

Accessibility (Select the single largest value)

4

Describe the site accessibility. Fence is up but not complete

F. Site Dynamics - This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion by beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5
None Anticipated	0

Site Dynamics (Select largest value)

0

Describe the site dynamics. None expected

TOTAL HAZARD PROBABILITY VALUE**(Sum of Largest Values for A through F--Maximum of 30)****Apply this value to Hazard Probability Table 2 to determine
Hazard Probability Level.**17**TABLE 2****HAZARD PROBABILITY**

Description	Level	Hazard Probability Value
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

*** Apply Hazard Probability Level to Table 3.**

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with the results of the hazard probability and hazard severity values.

TABLE 3

Probability Level	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
Severity Category:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINAL III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

RAC 1 Expedite INPR, recommending further action by CEHND - Immediately call CEHND-OE-ES commercial 205-895-1582..

RAC 2 High priority on completion of INPR - Recommend further action by CEHND.

RAC 3 Complete INPR - Recommend further action by CEHND.

RAC 4 Complete INPR - Recommend further action by CEHND.

RAC 5 Usually indicates that no further action (NOFA) is necessary. Submit NOFA and RAC to CEHND.

=====
Part IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

This site has indications that HE and Practice bombs were dropped here. The air base which was associated with this site also stored incendiary bombs but no indication was used on site, but listed it just in case. Debris has been found on site and OE could be subsurface.

INPR COST MODEL.

SITE NAME: Ephrata Bombing Range #4

PROJECT NUMBER: F10WA057900

	<u>Phase</u>	<u>\$ In house - \$ Contract</u>
YEAR 1.	EE/CA	\$75K - \$750K
YEAR 2.	RD	\$100K
YEAR 3.	RA	\$150K - \$4M
YEAR 4.	RA	\$150K - \$4M
YEAR 5.		
TOTAL C-T-C		<u>\$475K - \$8M</u>

APPENDIX E

**LETTERS/MEMORANDUMS/MISCELLANEOUS
ITEMS**

APPENDIX E - LETTERS/MEMORANDUMS/MISCELLANEOUS ITEMS

E-1 Adjutant General's Office

1947 Withdrawal of Ephrata Army Air Base, Washington, from Surplus. 5 March. Record Group 18, Entry 2C, Box 2815, File: Washington 1 Jan. - 31 March. National Archives II, College Park, MD.

E-2 Air Inspector, Western Field Division

1946 Inspection of Demobilization of Supply Activities at Ephrata AAF, Ephrata, Washington. 9 January. Record Group 18, Entry 46, Box 44, File: Washington. National Archives II, College Park, MD.

E-3 Assistant Chief of Air Staff

1945b Permit to Use Certain Space at Ephrata Army Air Field, Washington. 10 October. Record Group 18, Entry 2A, Box 2305, File: 686 Washington "A" to "L". National Archives II, College Park, MD.

E-4 Chemical Warfare Property Officer Utah General Depot

1942 Articles shipped to Quartermaster, Chemical Property Officer, Ephrata Air Base Ephrata, Washington for 88th Bomb Group. 29 July. Record Group 175, Entry 1, Box 229, File: 400.312/2301-2400. National Archives II, College Park, MD.

E-5 Congressional and Public Affairs Committee

1961 Use of Ephrata Army Air Field as a Public Airport. 7 March. Record Group 291, Entry 5, Box 201, File: No. 2 from Jan. 1, 1952 to Ephrata AFB. National Archives II, College Park, MD.

E-6 Ephrata Army Air Base

1943d "History of Army Air Base, Ephrata, WA, 01 November-30 November 1943." Call No. 282.76-5. United States Air Force Historical Research Agency, Maxwell AFB, AL.

E-7 Ephrata Army Air Base

1944b "History of Army Air Base, Ephrata, WA, 01 August-31 August 1944." Call No. 282.76-7. United States Air Force Historical Research Agency, Maxwell AFB, AL.

E-8 Ephrata Army Air Base

1945a "History of Army Air Base, Ephrata, WA, January-February 1945." Call No. 282.76-11. United States Air Force Historical Research Agency, Maxwell AFB, AL.

E-9 Finegan, Paul V.

1951 Letter Regarding Transfer of Lands from Ephrata Army Air Base, Ephrata, Washington. 17 December. Record Group 291, Entry 5, Box 201, File: No. 1 to December 31 1951, Ephrata AFB. National Archives II, College Park, MD.

E-10 Office of the Assistant Chief of Air Staff

1945a Change in Activity at Ephrata Army Air Base, Ephrata, Washington. 19 February. Record Group 18, Entry 2A, Box 2305, File: 686 Washington "A" to "L". National Archives II, College Park, MD

E-11 Office of the Assistant Chief of Air Staff, Material and Services

1945 Cancellation of Land Acquisition for Area Bombing Range, Ephrata and Moses Lake Army Airfields, Washington. 27 March. Record Group 19, Entry 1A, Box 288, File: 684. National Archives II, College Park, MD.

E-12 Office of the Commanding General, Second Air Force

1943 Acquisition of Bombing and Gunnery Ranges for AAB Ephrata, Washington. 24 February. Record Group 18, Entry 292A, Box 1498, File: Ephrata. National Archives II, College Park, MD.

E-13 Office of the Division Engineer, Pacific Division

1943a Gross Appraisal. 29 April. Record Group 18, Entry 292A, Box 1498, File: Ephrata. National Archives II, College Park, MD.

E-14 War Department

1945 Change of Status, Ephrata Army Air Field, Ephrata, Washington. 6 October. Record Group 18, Entry 1A, Box 291, File: 686 Vol. II. National Archives II, College Park, MD.

APPENDIX E-1

Adjutant General's Office 1947

**Withdrawal of Ephrata Army Air Base,
Washington, from Surplus. 5 March.
Record Group 18, Entry 2C, Box 2815, File:
Washington 1 Jan. - 31 March.
National Archives II,
College Park, MD.**



WAR DEPARTMENT
THE ADJUTANT GENERAL'S OFFICE
WASHINGTON 25, D.C.

ELDG & GROUNDS

IN REPLY
REFER TO:

AGAO-I 400.703 (21 Feb 47)WDGSP

5 March 1947

Subject: Withdrawal of Ephrata Army Air Base, Washington,
from surplus

To: Commanding General,
✓ Army Air Forces
Air Materiel Command
Chief of Engineers

Effective upon withdrawal from surplus declaration
to War Assets Administration the Ephrata Army Air Base,
Ephrata, Washington, is returned to an active status as a
Class III installation under the jurisdiction of the
Commanding General, Army Air Forces.

BY ORDER OF THE SECRETARY OF WAR:

Adjutant General.

NARA-CP

RG 18

6-1

B: 686 Washington to Wyoming
Box No. 2815

F: Washington 1 Jan-31 March

To file - N. A. R.
a MC advised
by separate correspondence

TO: Mail & Records Division, AAGC

From: Air Installations Division

AS/AS-4, Room 5E1037, The Pentagon

Date 31 JUL 1947

Chief, Administration Section

TO CENTRAL FILES/28 July 47

Mr. Ceconi/cag/4444



APPENDIX E-2

**Air Inspector, Western Field Division
1946**

**Inspection of Demobilization of Supply Activities
at Ephrata AAF, Ephrata, Washington.
9 January. Record Group 18, Entry 46,
Box 44, File: Washington.
National Archives II,
College Park, MD.**

HEADQUARTERS CONTINENTAL AIR FORCES

ROUTING AND RECORD SHEET

TALLY NO.	
FILE NO.	

SUBJECT: Inspection of Demobilization of Supply Activities
Ephrata AAF, Ephrata, Wash.

TO: The Field Executive, Western Field Division
Air Inspector, Hq, CAF, Colorado Springs, Colorado

DATE 9 January 1946

FROM: Capt J D Geyer, assisted by Lt Jacob Fouth
Field Air Inspectors, Western Field Division
Hq, CAF, Colorado Springs, Colorado

COMMENT No. 1

1. During the inspection of the Ephrata AAF, Washington, 8-9 January 1946, the following conditions relative to demobilization of supply activities were noted.

* * * * *

a. General.

(1) For all practical purposes this base was reduced to an inactive status by about 20 December 1945, and all supplies required to be shipped to reduce this station to an inactive status had been disposed of. On 26 December 1945 station received notification that it was declared surplus to the need of the War Department.

(2) From present directives it is apparent that it is the policy of AAF to dispose of surplus airbases intact to interested agencies if possible. If this is the policy of the Army Air Forces, there is apparently considerable confusion and misunderstanding in various headquarters. In a conversation with representatives of SPATSC, it was their intent to remove all machinery and equipment from all bases as soon as they were declared surplus with the exception of some post engineer equipment. This was brought on by notification from the district engineer that when accepting responsibility for a surplus station, they would not accept accountability for any installed equipment other than engineer equipment, and that all such property would be removed from the base prior to acceptance by them.

a. Representatives of the Federal Bureau of Reclamation, working on the Grand Coulee Dam and irrigation project which is doing extensive work and making their headquarters here, have stated that they are attempting to acquire this entire base, including all QM bedding, mess and housekeeping equipment, AAF machinery and equipment, and all engineer equipment and supplies at present on this station. If the directives of the Division Engineer assuming jurisdiction of this base are carried out, it would be in conflict with AAF policy in accordance with present directives, and equipment would be removed prior to date this base will be closed, 15 March 1946.

B. AAF Property

(1) All non-installed AAF equipment and supplies have been shipped from this station except a small amount of class 25 property. Necessary operating equipment for an active airdrome as defined in CAF Ltr 400, 12 Dec 45 and ATSC regulation 67-32 has not been retained at this station. All weather reporting station equipment, jacks, hoists, etc., have been

l.mcl.#1

HEADQUARTERS CONTINENTAL AIR FORCES
ROUTING AND RECORD SHEET

TALLY NO.	
FILE NO.	

SUBJECT:

TO:

DATE

COMMENT No. 1

FROM:

shipped. SPATSC has notified this base by TWX, 9 Jan 46, that disposition and shipping instructions would be made in the near future on the installed shop equipment. This is also in conflict with CAF Ltr 400 dated 12 Dec 45.

a. During a conversation with representatives of SPATSC, it was learned that they had no knowledge of the contents of CAF Ltr 400 or any other directive containing similar information.

(3) One (1) TB24J No 42-43239 (Class 26) was declared surplus to the ATSC about 15 Sept 45; at the time of this inspection no disposition has been received for this aircraft.

*

*

*

*

*

/s/ Jerry D Geyer
/t/ JERRY D GEYER
Capt, Air Corps
Field Air Inspector

Appendix E-3

**Assistant Chief of Air Staff
1945b**

**Permit to Use Certain Space at Ephrata Army Air
Field, Washington. 10 October. Record Group 18,
Entry 2A, Box 2305, File: 686 Washington
"A" to "L".**

**National Archives II,
College Park, MD.**

Mr. Young/fp/4444
AFDIN-2A/5 10 Oct 1945

DECLASSIFIED

Authority *NND 770097*
By *28* NARA Date *7-15-02*

~~SECRET & CONTROL~~

SUBJECT: Permit to Use Car

By *28* NARA Date *7-15-02* Army Air Field, Washington

AFDIN-2A/5

7th Ind

Hq. AAF, Washington 25, D. C.

11 OCT 1945

TO: Chief of Engineers, Washington 25, D. C. ATTENTION: Real Estate

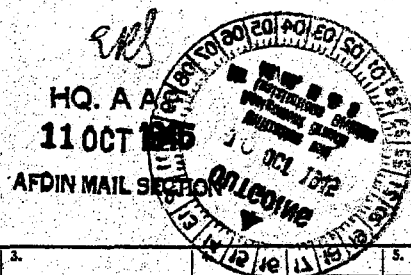
1. This Headquarters has no objection to the issuance of a permit to Civil Aeronautics Administration for the use of facilities indicated in preceding correspondence.

2. For your information this installation was placed on a temporarily inactive status effective 30 September 1945.

FOR THE COMMANDING GENERAL:

JOHN M. LYLE, Colonel, A. G.
Ass't Chief, Air Installations Division
Assistant Chief of Air Staff-4

1 Incl
m/s



OFFICE SYMBOL	1. AFDIN-2A/5	2.	3.	4.	5.
GRADE AND SURNAME OF COORDINATING OFFICERS	<i>James G. [Signature]</i>				

16-2242-2

NARA II
RG 18
E 2A
BD/2205
E: 686
Washington
"A" 20 "L"

DECLASSIFIED

Authority AND 770097 utics Admin-
By 28 NARA Date 7-15-83

680.44 (Ephrata Army Air Field, Wa
istration) SPFLM 6th Ind.
Subject: Permit to Use Certain Space at Ephrata Army Air Field, Washington.
Office, Chief of Engineers, Washington 25, D. C., 24 September 1945.
To: The Commanding General, Army Air Forces, Attn: AFDIN.

It is requested that this office be advised as to whether any military objections exist to the granting of a permit to the Civil Aeronautics Administration to use approximately 406 square feet in Building 576 (sometimes known as Building No. 76, Block 5) and approximately ninety square feet of storage space in the northeast corner of Building 577 (sometimes known as Building 77, Block 5) located within the Ephrata Army Air Field, Washington, for the purpose of enabling the Civil Aeronautics Administration to carry out normal functions and prerogatives in the field of commercial aviation.

FOR THE CHIEF OF ENGINEERS

/s/ Robert H. Fabian
ROBERT H. FABIAN
Major, Corps of Engineers
Chief, Management & Disposal Division
Real Estate

1 Incl:
Incl #1 Dtr fm Assistant
Sec. of Commerce dtd
27 Jun.
(Incl. 3 w/d)

DECLASSIFIED

Authority NND 770097By 28 NARA Date 7-15-02 b CAA, Ephrata Army Air
Washington.

(Basic: 6 July 1945)

680.4 (Ephrata Army Airfield,
Wash., Permit to C.A.A.)
SE PADMIN-O

5th Ind.

Office, Division Engineer, Pac. Div., San Francisco, Calif., 29 August 1945

TO: The Chief of Engineers, U. S. Army, WASHINGTON 25, D. C.

ATTENTION: Real Estate Division - SPELT

1. Pursuant to request contained in preceding basic letter from your office, there are submitted herewith for consideration and approval drafts of permit to the Department of Commerce (Civil Aeronautics Administration) to use certain building space at Ephrata Army Airfield Military Reservation, Ephrata, Washington.

2. Attention is invited to preceding 4th Indorsement from the Seattle Sub-Office, wherein the following information required by the provisions of RE 1103.01(c) is set forth and contained.

3. This office recommends acceptance and execution of this permit on behalf of the War Department.

FOR THE DIVISION ENGINEER:

/s/ W. E. Sullivan, Jr.
W. E. SULLIVAN, JR.
Captain, Corps of Engineers
Acting Chief, Management & Disposal Branch
Real Estate Division

2 Incls.:

a/c - #1

w/d - 2 cpy's of # 3 (permit)

DECLASSIFIED
 Authority AND 770097 (ington
 By 28 NARA Date 7-15-83 (uly 1945)

880.4 (Ephrata Army Airfield,
 Wn., Permit to C.A.A.) SE PADM-O 4th Ind.

Seattle Real Estate Sub-Office, Office of the Division Engineer, Pacific
 Division, 400 Textile Tower, Seattle 1, Washington. 21 August 1945.

TO: Division Engineer, Pacific Division, 351 California Street,
 SAN FRANCISCO 19, CALIFORNIA.

ATTENTION: Real Estate Division

1. Submitted for approval and execution is draft of Permit (6 copies)
 to Civil Aeronautics Administration covering the use of portions of Government-
 owned buildings Nos. 576 and 577 at Ephrata Army Airfield. Map in accordance
 with paragraph 302.09 Real Estate Manual is attached to each copy of permit.

2. Other information required by paragraph 1103.01 (c) Real Estate
 Manual is as follows:

a. Buildings are located on land owned by the Town of Ephrata
 in Grant County, Washington and occupied by the Government under Lease No.
 WO4-193-eng-3843.

b. Permit does not provide for compensation for the reason that
 permittee is an agency of the United States Government and the use of the
 facilities by the Civil Aeronautics Administration is in the best interests
 of the United States.

c. Bids were not invited for the reason that inclosed permit
 is the result of a request by the Civil Aeronautics Administration for space
 in particular buildings owned by the War Department, therefore, competition
 is not practical.

/s/ John B. Longgan
 JOHN B. LONGGAN
 Major, Corps of Engineers
 Chief, Seattle Sub-Office

2 Incls
 1 - n/c
 2 - w/d
 Added - 1 Incl.
 #3 - Permit (6)

DECLASSIFIED

Authority NND 770097By SP8 NARA Date 7-15-02

Subject: Permit to C.A.A., Ephrata Army Air
Field, Washington
 (Basic: 6 July 1945)

680.4(Ephrata Army Airfield,
 Wn., Permit to C.A.A.) SE FADEN-O 2nd Ind.

Seattle Real Estate Sub-Office, Office of the Division Engineer, Pacific
 Division, 400 Textile Tower, Seattle 1, Washington. 21 July 1945.

TO: Commanding Officer, Ephrata Army Airfield, Ephrata, Washington

1. It is requested that this office be furnished with a statement
 of your views and recommendations regarding proposed permit to Civil
 Aeronautics Administration.

2. It is also requested that a layout map of installation, marked
 to show the location of facilities involved, be furnished.

FOR THE DIVISION ENGINEER:

/s/ John E. Lonergan
 JOHN E. LONERGAN
 Major, Corps of Engineers
 Chief, Seattle Sub-Office

1 Incl: n/c

680.4

3rd Ind

OK

HEADQUARTERS EPHRATA ARMY AIR BASE, Ephrata, Washington, AUG 13 1945

TO: Seattle Real Estate Sub-Office, Office of the Division Engineer,
 Pacific Division, 400 Textile 1, Washington.

1. The present location of the Civil Aeronautics Administration is very
 satisfactory to both the C.A.A. personnel and to the Air Base personnel here
 at Ephrata. The installation has been operating in building #576 since 1943
 in a very efficient manner and it ~~has~~ is recommended that this set up be continued.

2. Inclosed are two maps, one of the field layout and C.A.A. location,
 and the other of the local building floor plan and C.A.A. location.

FOR THE COMMANDING OFFICER:

2 Incls

Incl 1 - n/c.

Added: 1 Incl:

Incl 2 - Maps.

/s/ William E. Stillings
 WILLIAM E. STILLINGS
 2nd Lt., Air Corps
 Adjutant

- 3 -

DECLASSIFIED
 Authority NND 770097
 By 28 NARA Date 7-15-02

CAA, Ephrata Army Air
 Washington
 (Basic) 6 July 1945)

680/4 (Ephrata Army Airfield,
 Wn., C.A.A.) SE PADEN-C 1st Ind.

Office, Division Engineer, Pac. Divn., San Francisco, Calif. 11 July 1945

To: Chief, Seattle Real Estate Sub-Office, Pacific Division,
 400 Textile Tower, SEATTLE, WASHINGTON

It is desired that your office comply with request contained
 in basic communication. Preparation of permit should be in accordance
 with Paragraph 1103.01, Corps of Engineers, Real Estate Manual.

BY ORDER OF THE DIVISION ENGINEER:

/s/ R. B. Daugherty
 R. B. DAUGHERTY
 Major, Corps of Engineers
 Chief, Management & Disposal Branch
 Real Estate Division

1 Incl: n/c

DECLASSIFIED

WAR DE

Authority AND 770097

By 28 NARA Date 7-15-82

OFFICE OF THE CHIEF OF ENGINEERS

WASHINGTON

6 July 1945

SUBJECT: Permit to GAE, Ephrata Army Air Field, Washington

TO: The Division Engineer
Pacific Division
San Francisco, Calif.

1. The inclosed letter from the Assistant Secretary of Commerce to the Secretary of War is forwarded for necessary action.
2. It is requested that a draft of permit be forwarded to this office for execution.

BY ORDER OF THE CHIEF OF ENGINEERS:

1 Incl: ltr fr Asst. Sec. of
Comm. to Sec. of War
dtd 27 Jun 45

/s/ Robert H. Fabian
ROBERT H. FABIAN
Major, Corps of Engineers
Chief, Management and Disposal Div.
Real Estate

End. H.

DECLASSIFIED

Authority NND 770097By 22 NARA Date 7-15-02

THE ASSISTANT

WASHINGTON 25

1945 JUN 28 AM 9: 33

JUN 27 1945

My dear Mr. Secretary:

The Civil Aeronautics Administration has been operating and maintaining an airway communication station at the Ephrata Army Air Base, Washington, in connection with operation of the Ephrata radio range facility.

The space occupied by the airway communication station consists of approximately 406 square feet plus approximately 90 square feet of storage space in the northeast corner of the Base Operations Building, Ephrata Army Air Field.

Since the airport is under the jurisdiction of the War Department, it is respectfully requested that the Civil Aeronautics Administration be granted a permit covering the continued occupancy of the above described quarters.

Sincerely yours,

/s/ William F. Burns
Assistant Secretary of Commerce

The Honorable
The Secretary of War
Washington, D. C.

Ind. #1

Appendix E-4

**Chemical Warfare Property Officer
Utah General Depot
1942**

**Articles shipped to Quartermaster, Chemical
Property Officer, Ephrata Air Base
Ephrata, Washington for 88th Bomb Group.
29 July. Record Group 175, Entry 1,
Box 229, File: 400.312/2301-2400.
National Archives II,
College Park, MD.**

REQUISITION

CHEMICAL WARFARE PROPERTY OFFICER UTAH GENERAL DEPOT

To: OGDEN UTAH No. of Sheets 2 Sheet No. 2

Requisition No. CW 449-5-42 Date July 29, 1942 Period Initial Mobilization Issu

SHIP TO QUARTERMASTER, Chemical Property Officer, Ephrata Air Base Ephrata, Washington

For: 88th Bomb Group.

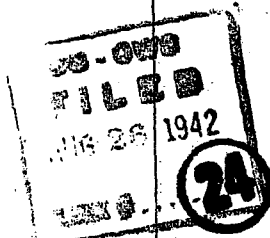
REQUISITIONED BY (show Signature, Rank, Organization, Destination. If different from "SHIP TO" include address):

APPROVED BY:

(sgd) L.W. CARD
L.W. CARD
Colonel, Q.M.C.
Quartermaster

(sgd) CAREY C. HARMAN by DML
CAREY C. HARMAN
Major, Army Air Forces
Adjutant.

STOCK No.	ARTICLES	UNIT	ON HAND AND DUE	CONSUMED	REQUIRED	APPROVED
	Kit, repair, gas mask, company, M2	ea.	0	0	4	0
	Mask, gas, diaphragm, M3-1XA1-1VA1, Universal size.	ea.	0	0	498	0
	Mask, gas, service, M2A1-1XA1-1VA1, Universal size.	ea.	0	0	1162	0
	Paint, liquid vesicant, detector, M5.	can	0	0	144	144
	Paper, Liquid vesicant, detector, M6.	bk.	0	0	24	24
	Sack, gas, resistant, M1.	ea.	0	0	1660	1660
	Set, Antidim.	ea.	0	0	332	0



NARA-CP
RG175
E:1
B:229
F:400.312/2301-2400

REQUISITION

CHEMICAL WARFARE PROPERTY OFFICER UTAH GENERAL DEPOT
To: OGDEN, UTAH

No. of Sheets 2

Requisition No. CW 449-5-43

Date July 29, 1942

Period Initial Mobilization Issue

SHIP TO QUARTERMASTER, Chemical Property Officer, Ephrata Air Base, Ephrata, Washingt

For: 88th Bomb Group

REQUISITIONED BY (show Signature, Rank, Organization, Destination. If different from "SHIP TO" include address):

APPROVED BY:

(Sgd) L.W. CARD
L.W. CARD
Colonel, Q.M.C.
Quartermaster

(Sgd) Carey C. Harman by DML
CAREY C. HARMAN
Major, Army Air Forces
Adjutant.

STOCK No.	ARTICLES	UNIT	ON HAND AND DUE	CONSUMED	REQUIRED	APPROVED
	AUTHORITY: T/BA 1, July 1, 1942;T/O 1-112 dated July 1, 1942;T/O 1-117 dated July 1, 1942.					
	BASIS : Initial issue of complete Cml.Warfare organizational equipment for the 88th Bomb Gp (Hv), activated per General Orders # 113 Headquarters 2nd Air Force, Fort George Wright, Washington, dated July 10, 1942; Group consisting of the following:					
	<u>ORGANIZATIONS</u>			<u>AUTHORIZED STRENGTH</u>		
				<u>OFFICERS</u>	<u>E. M.</u>	
	Hq. 88th Bomb Group			18	34	
	316th Bomb Squadron			68	334	
	317th Bomb Squadron			68	334	
	318th Bomb Squadron			68	334	
	399th Bomb Squadron			68	334	
	Delivery date: August 20, 1942.					
	Apparatus, Decontaminating, 3 gallon pressure type.	ea.	0	0	32	0
	Apparatus, decontaminating, power driven, M3 and/orM3A1.	ea.	0	0	4	0
	Apron, gasproof	ea.	0	0	8	8
	Crayon, vesicant detector, M7.	ea.	0	0	52	52
	Impregnite, shoe	Oz.	0	0	1660	0
	Kit, HS vapor detector, M4.	ea.	0	0	4	4

OWS
ILED
G 26 1942
24

CS-OWS
FILED
AUG 26 1942

lmg

SB/LEN/fbs

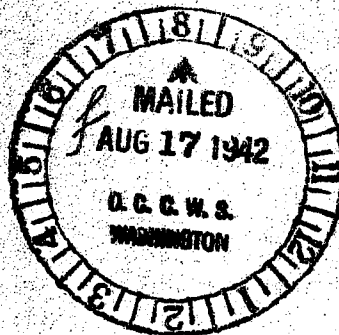
GWS 400.312/2350 (7-29-42) 2nd Ind. 4-3 T
War Department, O-G of GWS, August 15, 1942. To: Chemical
Warfare Supply Officer, Utah Chemical Warfare Depot, Ogden,
Utah.

1. Requisition Number GW 449-6-43, dated July 29,
1942, from Ephrata, Washington, is returned.

2. In connection with gasproof Aprons, your attention
is invited to Chemical Warfare Service Credit Number 641, dated
August 3, 1942.

3. The remaining material requested is not available
for issue at present. It is expected that this material will
become available in approximately six (6) weeks.

For the Chief of the Chemical Warfare Service:



NORMAN D. GILLET
Colonel, C.W.S.
Assistant

zld
COK

JK
M

25-1/1

MARA-CP

R 6175

E 1

B: No. 229

F: 400.312/2301-2400

Appendix E-5

Congressional and Public Affairs Committee 1961

**Use of Ephrata Army Air Field as a Public
Airport. 7 March. Record Group 291,
Entry 5, Box 201, File: No. 2 from
Jan. 1, 1952 to Ephrata AFB.
National Archives II,
College Park, MD.**

Handwritten: To Room 6328
1-PRH
2-PRDH
3-PRDW
RTR.
MAR 7 1961

Honorable Warren G. Magnuson
United States Senate
Washington 25, D. C.

Dear Senator Magnuson:

The real property at Ephrata, Washington, referred to in the letter from Mr. Gary Box, attached to your referral of February 22, was conveyed to the City of Ephrata, Washington, along with other land, buildings, improvements and appurtenances for use as a public airport under authority of section 13(g) of the Surplus Property Act of 1944, as amended, (50 U.S.C. App. 1622(g)). The deed was dated March 18, 1953, and reserved in the Government among other things a right to make exclusive or nonexclusive use of the property during any national emergency declared by the President of the United States or the Congress.

The Federal Aviation Agency has exclusive authority to grant releases from the terms, conditions, reservations and restrictions in deeds conveying surplus property for public airport use. Accordingly, your communication of February 22 together with the letter from Mr. Box with the attachments is being referred to Mr. Joseph H. Tibbets, Director, Bureau of Facilities and Material, Federal Aviation Agency, Washington 25, D. C., for direct reply to you.

Sincerely yours
ROBERT T. GRIFFIN
Special Assistant to the Administrator
Congressional & Public Affairs

CC: P-600
Official File - PRF
AL A (3), 10COM
Corres. Control - P 9664 due 3/2

Mr. Joseph H. Tibbets, Director, Bureau of Facilities and Material,
FAA, Washington 25, D. C.

WNBrunson/nd 3/1/61 4912
Retyped - mas.

P _____ PR _____

Handwritten: NARA II
RG 291
E 5

Handwritten: Box old # 223
New # 201

Handwritten: Folder: NO 2 from
Jan. 1, 1952 to
Ephrata AFB

Appendix E-6

**Ephrata Army Air Base
1943d**

**“History of Army Air Base, Ephrata, WA, 01
November-30 November 1943.”**

Call No. 282.76-5.

**United States Air Force
Historical Research Agency,
Maxwell AFB, AL.**

AAFLD-EPHRATA-HI

7 JUN 1990

1 NOV 43

207

[REDACTED]

HISTORY OF ARMY AIR BASE

EPHRATA, WASHINGTON

11 NOVEMBER TO 30 NOVEMBER 1943

ice Studies Inst
Archives Branch
1 AFB, Alabama

RETURN TO:

Nov 43

282.76-5

P.R.C.

DECLASSIFIED
EO 11652

00171869

USAFHRA

Call # 282.76-5

[REDACTED]

MICROFILMED

HISTORY
OF

EPHRATA ARMY AIR BASE GENERAL
for November 1943

CONFIDENTIAL

CONSTRUCTION

This, the fifth instalment of the Base General History, covering the month of November, has seen the all too rapid disbanding of Army Air Base, Ephrata. This closing down of the Base has heaped additional work on all organizations and sections of the Base. Orders have come thick and fast and there is an air of uncertainty and expectancy hovering over the entire Base.

Under existing condition, construction must of necessity be abandoned. Partially completed buildings are in evidence here and there and contracts for additional construction have been cancelled.

TRAINING

The training program for the month has been practically non-existent, since the middle of the month, which is to be expected with the transferring of so many outfits in such a short space of time.

PERSONNEL

The 457th Bomb Group, numbering 340 Officers and 1566 enlisted men were to be transferred to Wendover Field, Utah 27 November. (Ex-58) Due to transportation facilities, the actual departure was not completed by the end of the month. On 13 November, the provisional Base Headquarters and Air Base Squadron, B-27 was transferred to Camp Miles Standish, Massachusetts. (Ex.-59). On 11 November, orders were received transferring the Finance Detachment to Salina, Kansas, which proved somewhat of a handicap in the movement and payment of troops. (Ex. 60) The 32nd Aviation Squadron was transferred to Wendover Field, Utah 23 November. (Ex.-61)

MORALE

The Service Club has done much to maintain the morale of the base during this unsettled period. Weekly dances have been held. On Thursday, 25 November, a delicious Thanksgiving dinner was served in the Service Club Cafeteria (Ex.-62). The USO Club offered movies on Sunday and Wednesday nights during the month.

-
- (Ex.-58) Par 1, SO 330, Hq AAB Ephrata, Wash., dd 26 Nov 43.
(Ex.-59) Par 11, SO 317, Hq AAB Ephrata, Wash., dd 13 Nov 43.
(Ex.-60) Par 4, SO 315, Hq AAB Ephrata, Wash., dd 11 Nov 43.
(Ex.-61) Par 9, SO 327, Hq AAB, Ephrata, Wash., dd 23 Nov 43.
(Ex.-62) Page from Base Newspaper "The Sagebrush Rattler", dd 27 Nov 43.
Photographs (3) Service Club Thanksgiving

CONFIDENTIAL

Appendix E-7

**Ephrata Army Air Base
1944b**

**“History of Army Air Base, Ephrata, WA, 01
August-31 August 1944.” Call No. 282.76-7.
United States Air Force
Historical Research Agency,
Maxwell AFB, AL.**

Aug 44

MICROFILMED BY TIM

RETURN TO

Historical Research Division

3825/HOA

Maxwell AFB, AL 36112

~~DECLASSIFIED~~

EO 1.1652

00171871

CONFIDENTIAL

HISTORY OF THE
EPHRATA ARMY AIR BASE
1 August 1944 to 31 August 1944

Prepared in September 1944 in compliance with AR 345-105
AAF Regulation 20-8, and Directives of the Fourth Air Force.

FORMER DESIGNATIONS

None

PRESENT ASSIGNMENT

To Fourth Air Force. 20 March 1944.

PRESENT STATION

Army Air Base, Ephrata, Washington

UNITS ASSIGNED OR ATTACHED

430th AAF Base Unit
Sub-Base Ellensburg Army Air Field
Sub-Base Geiger Army Air Field
Det. 102nd AAC System Squadron
3rd Plat. 835th Chem. Co., Air Opr.
Det. 24th Weather Squadron
570th AAF Band

COMPILED BY:

Harold E. Winter
HAROLD E. WINTER
2nd Lt., Air Corps
Historical Officer

APPROVED:

Henry G. Thorne, Jr.
HENRY G. THORNE, JR.
Colonel, Air Corps
Commanding Officer

0004

CONFIDENTIAL

C O N F I D E N T I A L

History of the Ephrata Army Air Base, Ephrata, Washington August 1944

that may help the committee. (7) The trainee members of the committee are encouraged to tell the committee any complaints of ideas that any trainee of the classes may have. (8) All ideas voiced by any pilot on the base are considered and used if found satisfactory. The Flying Safety Committee also not only desires but seeks suggestions from all personnel of the base, flyer and ground personnel alike.

Several regulations were published during the month which make for safer flying. The P-63 was restricted to normal flight. Turns were not to exceed 30° and airspeed was restricted to not more than 300 mph. Due to the different types of aircraft being flown off this field, it was necessary to change the existing regulations as to the patterns in traffic being flown by each. The BT-13 and the UC-78 now enter the pattern 45° to the downwind leg and fly a rectangular course. Extreme caution must be used due to the overhead pattern of fighter type aircraft and therefore other aircraft never make an overhead approach.

To avoid fire hazards over the extensive fields of wheat in the area normally flown over to reach the Strafing, Smoke and Dive Bombing Ranges the following regulations were issued:

- a. Smoke and Dive Bombing: All Planes will fly up the chain of lakes to a point opposite the Smoke and Dive Bombing targets at which point they will turn and proceed to the range.
- b. Strafing Missions: All planes will fly up the chain of lakes to the highway going west from Coulee City, Washington. They

C O N F I D E N T I A L

Appendix E-8

**Ephrata Army Air Base
1945a**

**“History of Army Air Base, Ephrata, WA, January-
February 1945.” Call No. 282.76-11.**

**United States Air Force
Historical Research Agency,
Maxwell AFB, AL.**

8 JUN 1990

AAFLD-EPHRAATA
775

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v.1
282.76-11

P.R.C.

HISTORY OF
EPHRATA ARMY AIR BASE

VOLUME VII

PART I
JANUARY 1945

PART II
FEBRUARY 1945

00171876

DECLASSIFIED
DOD DIR 5200.9, 27 Sep 58

USAFHRA
Call # 282.76-11

DECLASSIFIED

UNCLASSIFIED

2693-6

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C O N F I D E N T I A L

History of Ephrata Army Air Base, Ephrata, Wash. January 1945

Flying Training

On 23 January, Col. G.P. Disosway, Commanding Officer, announced at a Staff Meeting the deactivation of this base by Fourth Air Force.

On 28 January, General Order 16 was published stating that Ephrata was to become a Sub-Base of McChord Field, Washington, effective 1 February.

This immediately set everyone to wondering where they would be transferred and when. Also, it presented the problem of closing all the Departments and Offices. On 29 January, the 152 trainee pilots stationed here, plus two more officers put on flying status, were transferred to Redmond Army Air Field, Redmond, Oregon, to complete their training. The planes were all to go to PLM to be serviced before being transferred.

"C" Flight Section was the last section to go to Daggett Municipal Airport for aerial gunnery practice. The pilots arrived on 4 January and reported to the line at 0800.

The pilots were briefed on the procedure of Aerial Gunnery, passes, and patterns of the field, and soon afterward the men were flying.

"C" Flight had only two aircraft accidents at Daggett. 2nd Lt. Donald W. Gipe shot off the target and hit it with

C O N F I D E N T I A L

C O N F I D E N T I A L

Property of Ephrata Army Air Base, Ephrata, Wash. January 1945

for monthly administrative inspection of stock balance and consumption reports on 16 January.

On Wednesday, 17 January, 1st Lt. Fred L. Chewning of the Signal Depot inspected the Signal Property Office. The purpose of the inspection was to adjust maximum stock levels of ASF Signal Property.

On the same afternoon enlisted men of Section A attended Communications Training Film at the Communications Ground Training Building.

The first of the P-38L type airplanes returned from Daggett Municipal Airport, California on 17 January followed by seventeen on the next day. On that same afternoon, a troop train arrived from Daggett with the pilots and crew men from this base who had been there on DS. Lt. Mark Markowitz met the train and made the proper inspection, contacting the Train Commander and Train Railroad representative.

The personnel of the Air Force Supply reporting section went to Moses Lake Army Air Field, now a sub-base of Ephrata, to take care of reports for that station on the 19th.

One PQ-14A and one TB-26 airplane were received from Pine Field, Washington.

Chemical Sway braces were installed on planes in Flights 1 and 2 for the purpose of carrying out the Smoke Training program.

C O N F I D E N T I A L

C O N F I D E N T I A L

History of Ephrata Army Air Base, Ephrata, Wash. February 1945

The WACs were given a Physical Fitness Test and the results forwarded to Fourth Air Force; however, the quarterly Physical Fitness Test for Officers and Enlisted Men was officially cancelled for this base.

1st Lieutenant Edward M. Docherty, Physical Training Officer, attended a three-day conference of Physical Training Officers at Fresno, California on 15, 16 and 17 February.

The Base Basketball Team finished in a tie for first place in the Northern Division of the Fourth Air Force League. In a play-off to determine the winner, Ephrata won over Geiger Field 75-54. The Ephrata Team then traveled to Spokane, Washington to compete in the Northern-Central Divisional play-offs. Ephrata lost the first place title to Geiger Field by a one point decision, thus disqualifying them to attend the Fourth Air Force tournament held at Fresno, California.

Ephrata then entered a twelve team tournament of Ninth Service Command teams held at Fort Lewis, Washington, Ephrata reached the finals and thus qualified with Ft. Lewis to represent the Northwest Section in the Command Tournament at Camp Beale, California. However, due to the inactivation of this base the team was unable to attend the tournament.

CHEMICAL WARFARE

The following activities are pertinent to Chemical Warfare Property Section and this is from the report submitted to the Project Officer:

C O N F I D E N T I A L
-2-

C O N F I D E N T I A L

History of Ephrata Army Air Base, Ephrata, Washington Feb. 1945

- a. It is estimated that disposition of CWS property will be effected during the following dates:

Week through 18-24 February

All lines, filling, APST, M3 to McChord
All Stands, carrying, M1 to McChord
All stands, platform (APST) to McChord
Stock balance will be brought to zero
700 Gasket, Air Inlet to Bluethenthal Field, N.C.
625 Gasket, discharge, seal, to Bluethenthal Field, N.C.
352 Retainer, detonator, to Bluethenthal Field, N.C.
Remainder of accessories to be shipped to Portland, Ore.
Stock balance record to be brought to zero
25 lbs Chlorine to Salinas AAB, California
25 lbs Chlorine to Chico AAFld, California
50 ea Capsules CN, to Hamilton Field, California
24 ea Bombs, Incend., Instr., M1 or M2 to Camp Pinedale
25 lbs Chlorine, to Camp Pinedale, California
1 ea Cluster, Incend Bomb, An-M8, to Camp Pinedale
24 lbs Chlorine, to Camp Pinedale
63 ea Grenades, smoke, white, HC-AN-M8 to Camp Pinedale
50 ea Grenades, smoke, colored, M18 (ass'd colors)
to Camp Pinedale
25 ea Pots, tear gas (CN) M1, to Camp Pinedale
20 ea Mine, land, chml, one gallon empty, Camp Pinedale

Week through 25 February - 1 March

Remainder of FA (smoke)
2 Trucks, cml., service, M1
2 Trailers, cml., service M2
1 Apparatus, decon. power driven, M4
(declared excess; to be shipped when disposition arrives)
Remainder of Bombs, M1 or M2 to Geiger Field
Remainder of Chlorine to Geiger Field
Remainder of CN capsules to Geiger Field
Remainder of Grenades, M-18, smoke, clrd., (ass'd colors) to Geiger Field
Remainder of Pots, tear gas (CN) M1 to Geiger Field
Remainder of Mines, land, cml, empty, 1 gal. To Geiger Field.
Remainder of ammunition on hand after the shipments have been made or declared excess to Geiger Field

- b. Gas masks have been recalled from all Squadrons and are being prepared for shipment to California. Approximately 150 boxes required for this operation are

C O N F I D E N T I A L

Appendix E-9

**Finegan, Paul V.
1951**

**Letter Regarding Transfer of Lands from Ephrata
Army Air Base, Ephrata, Washington.
17 December. Record Group 291, Entry 5,
Box 201, File: No. 1 to December 31 1951,
Ephrata AFB.
National Archives II,
College Park, MD.**

(C O P Y)

Mr. Thomas L. Peyton

Mr. Paul V. Finegan

December 17, 1951.

Ephrata Air Force Base
Ephrata, Washington
D-Wash-401

Ephrata Air Force Base was reported as excess to the needs of the Department of the Army on August 31, 1950 and was subsequently frozen by the Department of Defense for approximately 30 months.

Public Law 759, 81st Congress authorized the transfer of a portion of this property to the Bureau of Reclamation of the Department of the Interior but this transfer was blocked by the passage of Public Law 910 which the Department of the Army believed eliminated the possibility of transferring this property.

With the repeal of Public Law 910 transfer of certain portions of the property was authorized on November 21, 1951. In addition to the portion transferred we understand that the Bureau of Reclamation wishes the transfer of two additional buildings at fair value. These are buildings T-2203 and T-3476 which will be taken for off-site use. The regional office has been authorized to proceed with the transfer of these buildings.

As there is no defense or federal civilian need for the balance of the property reported as excess, it is certified to be surplus to the known needs of the Federal Government.

We are attaching copies of the original report of excess together with certain corrections and withdrawals and other correspondence which may have a bearing on your disposal action. Please note that the City of Ephrata is interested in securing a portion of the property.

Attachments

SIGNED: Paul V. Finegan

NARA II

RG 291

E 5

Box old 203
new 201

Folder: No 1 40

December 31, 1951

Ephrata AFB

Appendix E-10

Office of the Assistant Chief of Air Staff 1945a

**Change in Activity at Ephrata Army Air Base,
Ephrata, Washington. 19 February. Record
Group 18, Entry 2A, Box 2305, File: 686
Washington "A" to "L".
National Archives II,
College Park, MD**

Mr. T.A. Young/tfb
Ext. 3482
15 Feb 45

DECLASSIFIED
Authority NND 770097
By 22 NARA Date 7-15-02

ELDER & GORDON

AFDIN-2A/4

19 FEB 1945

MEMORANDUM FOR CHIEF OF STAFF: (Attention: A-4 Division)

Change in activity of Ephraim Army Air Base, Ephraim, Washington

In accordance with Paragraph 2, War Department Circular 235 1944, you are advised that that part of Ephraim Army Air Base not required for limited operations in connection with testing and flying of aircraft for antiaircraft is being placed in a temporary inactive status. This installation will remain under the jurisdiction of the Fourth Air Force.

FOR THE COMMANDING GENERAL, ARMY AIR FORCES:

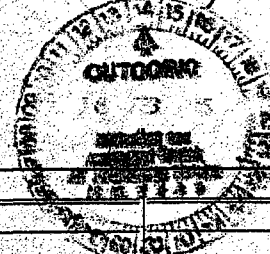
H. E. FISHER, Col., C. E.,
Deputy Chief, Air Installations Division,
Office of Ass't. Chief of Air Staff,
Material and Services

MEMORANDUM FOR FILES:

The Adjutant General
The Air Inspector
Chief, Units Record Bureau, AC/AS, OC&R
Chief, Continental U.S. Section, Logistical Planning Branch, AC/AS, H&S
Management Control, Manpower Division
Management Control, Statistical Control Division, Atten: Capt. Merican
Construction Branch Atten: Operations Section
Installation Data Branch AFDIN
AC/AS, M&S, Air Services Division S&M Branch, Atten: Lt. Col. Benedict

Classification concerning change in status was removed by Major Borel, L4LD,
14 Feb 45

*and
19 Feb. 45*



OFFICE SYMBOL	1. AFDIN-2A/4	2.	3.	4.
GRADE AND SURNAME OF COORDINATING OFFICERS	<i>[Signature]</i>			
	<i>[Signature]</i>			
	<i>[Signature]</i>			

10-20342-2 U. S. GOVERNMENT PRINTING OFFICE

NARA II
RG 18
E 2A
Box #2205
F: 686
Washington
"A" - "L"

Appendix E-11

**Office of the Assistant Chief of Air Staff,
Material and Services
1945**

**Cancellation of Land Acquisition for Area
Bombing Range, Ephrata and Moses Lake
Army Airfields, Washington. 27 March.
Record Group 19, Entry 1A, Box 288,
File: 684.
National Archives II,
College Park, MD.**

DECLASSIFIED

Authority *NND 770097*By *28* NARA Date *7-15-82***CONFIDENTIAL**

SUBJECT: Cancellation of Land Acquisition for Area Bombing Range,
Ephrata and Moses Lake Army Airfields, Washington.

AEDIN 2B/2

4th Ind.

Hq Army Air Forces, Washington 25, D. C.

12 MAR 1945

To: Commanding General, Fourth Air Force, 180 New Montgomery Street,
San Francisco, California.

1. It is believed that Precision Bombing Range No. 2 described in the preceding 1st Indorsement is the same range referred to in the preceding 3d Indorsement from the Chief of Engineers, stating that the Directive authorizing acquisition of approximately 2,560 acres of land included in Section 22, 23, 26 and 27, Township 25N, Range 25E, Douglas County, Washington, has been cancelled.

2. It is requested that this matter be clarified in order that records of this headquarters may be revised accordingly.

BY COMMAND OF GENERAL ARNOLD

2 Incls. n/c

Lucius M. Sargent
LUCIUS M. SARGENT, Lt. Col., A. C.,
Asst Chief, Air Installations Division
Office of Asst Chief of Air Staff,
Material and Services

684/w/5 (1-54) (18 Jan 45)

5th Ind.

HEADQUARTERS FOURTH AIR FORCE, San Francisco 6, California.

NAFES-5

27 MAR 1945

To: Commanding General, Army Air Forces, Washington 25, D. C. ATTN: AC/AS,
M&S, Air Installations Division.

1. The land described in 3rd Ind. is identified as Ephrata Precision Bombing Range No. 2. The files of this Headquarters contained no information on the cancellation of the directive of the acquisition of that range. It will be noted that the general order issued by Second Air Force, copy of which is inclosed, purports to transfer this range to Fourth Air Force.

2. In view of the transfer of Ephrata Army Air Field to AFSC, this range will now be required by the Fourth Air Force. The records of this Headquarters are being corrected to show the deletion of this range in accordance with 3rd Ind. Subordinate commands will be informed.

FOR THE COMMANDING GENERAL:

TO: Mail & Records Branch

2 Incl: 178

From: *W. H. Hord* Fld
AC/AS, M&S, Room 1440, AAF
D. H. Ingr. SF.

From: Air Installations Division
AC/AS, M&S, Room 1440, AAF
ASS'T., ADJ. GEN.

TO CENTRAL FILES 4/3/45 Date

- 9 APR 1945

No further action necessary

CONFIDENTIAL

PM A 4760

10-55510-5 U.S. GOVERNMENT PRINTING OFFICE

NARA-II

RG 18

E 1A

B 288

F 684

DECLASSIFIED

Authority NND 770097By 28 NARA Date 7-15-82~~CONFIDENTIAL~~~~CONFIDENTIAL~~Revoline F. Evans/bfe
Wrtn 3/8/45

Ext 5615

SUBJECT: Cancellation of Land Acquisition for Area Bombing Range,
Sphrata and Moses Lake Army Airfields, Washington.Subject: Sphrata and Moses Lake Army Airfields, Area Bombing Range,
AFDIN 2B/2 Sphrata and Moses Lake Army Airfields, Washington.

Hq Army Air Forces, Washington 25, D. C.

12 MAR 1945

1st Commanding General, Fourth Air Force, 180 New Montgomery Street,
San Francisco, California.

1. It is believed that Precision Bombing Range No. 2 described in the preceding 1st Indorsement is the same range referred to in the preceding 3d Indorsement from the Chief of Engineers, stating that the Directive authorizing acquisition of approximately 2,860 acres of land included in Section 25, 26, 27 and 28, Township 25N, Range 25E, Douglas County, Washington, has been cancelled.

Pursuant to your request by 5th Indorsement dated 26 Apr 45, it is requested that this matter be clarified in order that records of this Headquarters may be revised accordingly. Land for an area having targets to serve Sphrata Army Air Base. The area included Section 25, 26, 27 and 28, Township 25N, Range 25E, Douglas County, Washington.

FOR THE CHIEF OF LUCIUS M. SARGENT, Lt. Col., A. C.,
Ass't Chief, Air Installations Division
Office of Ass't Chief of Air Staff,
Material and Services

2 Inds. n/c

MEMO FOR FILES: Basic Ltr from Hq-AAF to CG, 4AF dtd 1/18/45, Subj: as above w/ 2nd Inds. (2nd Ind dtd 2/20/45 to CGAF.)
Cops in Central Files & AFDIN Files.

2 Inds. n/c

HQ AAF

12 MAR 1945

RECEIVED MAIL SECTION

1625370

OFFICE SYMBOL	1. AFDIN 2B/2	2.	3.	4.	5.
GRADE AND NAME OF COORDINATING OFFICERS	<i>W. H. H. H.</i>				

CONFIDENTIAL

- 2 -

DECLASSIFIED

Authority *AND 770097*By *28* NARA Date *7-15-03*

Rev:

With *of*~~CONFIDENTIAL~~ *1676*~~CONFIDENTIAL~~**CONFIDENTIAL**

CE 601.1 (Airfield) SPELR

Subject: Cancellation of Land Acquisition for Area Bombing Range,
Ephrata and Moses Lake Army Airfields, Washington.

3rd Ind.

Army Service Forces, Office of the Chief of Engineers, U. S. Army,
War Department, Washington 25, D. C.

26 February 1945

To: The Commanding General, Army Air Forces, AC/AS, M. & S., Annex
No. 1, Gravelly Point, Virginia.

Pursuant to your request by 6th Indorsement dated 28 April 1944, Directive dated 15 June 1943 was cancelled. The Directive authorized the acquisition of approximately 2,560 acres of land for an area bombing target to serve Ephrata Army Air Base. The area included Sections 22, 23, 26 and 27 in Township 25 North, Range 26 East, Douglas County, Washington.

FOR THE CHIEF OF ENGINEERS:

Joseph Connolly
JOSEPH CONNOLLY
Chief, Acquisition Branch
Real Estate Division

2 Incls. n/c

CONFIDENTIAL*U-3225*

DECLASSIFIED
Authority *NND 770097*
By *28* NARA Date *7-15-82*

CONFIDENTIAL

SUBJECT: Fourth Air Force Bombing Ranges, (Ephrata and Moses Lake Army Air Fields, Washington).

AFDIN 3C/1

2nd Ind.

Hq Army Air Forces, Washington 25, D. C.

20 FEB 1945 121640

TO: Chief of Engineers, Real Estate Division.

1. Reference is made to paragraph 1a (2) of the preceding 1st Indorsement. By 6th Indorsement dated 28 April 1944, to your office, this headquarters requested that the directive for the acquisition of a bombing target range for use by the Ephrata Army Air Field, Washington, be cancelled since no additional ranges would be needed for that airfield.

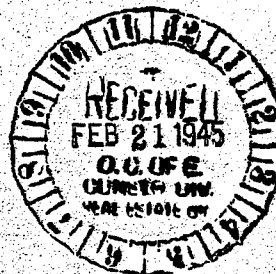
2. Records of this headquarters indicate that the Precision Bombing Range No. 2, referred to in the preceding 1st Indorsement is the same range referred to above.

3. It is requested that this headquarters be advised if the directive for the bombing and target range was cancelled or whether the land was acquired.

FOR THE COMMANDING GENERAL, ARMY AIR FORCES:

2 Incls
n/c

Leo J. Erlner
LEO J. ERLNER, Lt. Col., A. C.
Air Installations Division
Office of Ass't. Chief of Air Staff,
Material and Services



CONFIDENTIAL

3

2-22-45
Ch

800 N 201
CONFIDENTIAL
PM A 4760

DECLASSIFIED

Authority AND 770097

By 28 NARA Date 7-15-82

CONFIDENTIAL

AFDIN 3C/1 Wrt'n 2/16/45
Lt. Col. John C. Kelly/vc/2984

SUBJECT: Fourth Air Force Bombing Ranges, (Spirata and Rosen Lake Army Air Fields, Washington).

2nd Dtd.

AFDIN 3C/1

20 FEB 1945

To: Army Air Forces, Washington 25, D. C.
Cc: Chief of Engineers, Real Estate Division.

1. Reference is made to paragraph 1a (2) of the preceding 1st Indorsement. By 6th Indorsement dated 23 April 1944, to your office, this headquarters requested that the directive for the acquisition of a bombing target range for use by the Spirata Army Air Field, Washington, be cancelled since no additional ranges would be needed for that airfield.

2. Records of this headquarters indicate that the Precision Bombing Range No. 2, referred to in the preceding 1st Indorsement is the same range referred to above.

3. It is requested that this headquarters be advised if the directive for the bombing and target range was cancelled or whether the land was acquired.

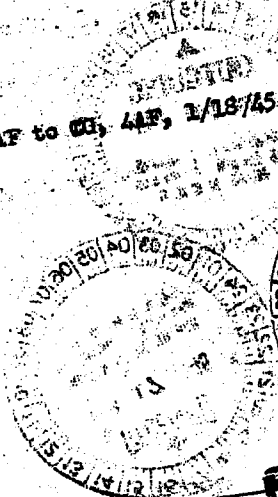
FOR THE COMMANDING GENERAL, ARMY AIR FORCES:

LEO J. ERLER, Lt. Col., A. C.
Air Installations Division
Office of Ass't. Chief of Air Staff,
Material and Services

2 Incls
H/S

MEMO FOR FILES: Basic Ltr fr Hq. AAF to CG, AAF, 1/18/45 in files

cc: UTILIZATION & ASSIGNMENT BR.
INSTALLATIONS DATA BR.
OPERATIONS SECTION



A 20140

OFFICE SYMBOL	AFDIN 3C/1	CONFIDENTIAL	CLASSIFIED SECTION
GRADE AND SURNAME OF COORDINATING OFFICERS	Lieut. Col. J. C. Kelly JCK WSCM CHT 11/20		

ASS'T. ADJ. GEN.

CONFIDENTIAL

PM A 4760

684 Bombing Range

DECLASSIFIED
Authority NND 770097
By 28 NARA Date 7-15-02

CONFIDENTIAL

CONFIDENTIAL

BASIC: Ltr fr Hq AAF, Subj: Fourth Air Force Bombing Ranges, dtd 18 Jan 45

684/w5 (1-44) (18 Jan 45) 1st Ind. 4AFES-8
HEADQUARTERS FOURTH AIR FORCE, San Francisco 6, California, 27 JAN 1945

TO: Commanding General, Army Air Forces, Washington 25 D. C. ATTN: AC/AS,
M&S, Air Installations Division.

121640

1. In compliance with Paragraph 3 of basic letter, two prints are in-
closed of a map showing the location of all Bombing and Aerial Gunnery Ranges
assigned to Ephrata Army Air Field and Moses Lake Army Air Field. Following
is the longitude and latitude of the approximate center of each of these
ranges:

a. Ephrata Army Air Field:

- ✓ (1) Precision Bombing Range No. 1, 47° 30' N, 119° 35' W
- ✓ (2) Precision Bombing Range No. 2, 47° 37' N, 119° 37' W
- ✓ (3) Precision Bombing Range No. 3, 47° 42' N, 119° 31' W
- ✓ (4) Air-to-Ground Gunnery Range, 47° 31' N, 119° 41' W

b. Moses Lake Army Air Field:

- ✓ (1) Precision Bombing Range No. 1, 47° 02' 30" N, 119° 27' W
- ✓ (2) Precision Bombing Range No. 2, 47° 03' N, 119° 41' W
- ✓ (3) Precision Bombing Range No. 3, 46° 53' N, 119° 39' W
- ✓ (4) Precision Bombing Range No. 4, 46° 53' N, 119° 25' W
- ✓ (5) Precision Bombing Range No. 5, 46° 56' N, 119° 12' W
- ✓ (6) Air-to-Ground Gunnery Range, 46° 54' N, 119° 50' W

FOR THE COMMANDING GENERAL:

George E. Rohde
GEORGE E. ROHDE
Captain, A.G.D.,
ASS'T., ADJ. GEN.

2 Inclosures:
Incl 1 - n/c
Incl 2 - added Map (in dup)

3 FEB 1945

CONFIDENTIAL

CONFIDENTIAL

RM A 4760

DECLASSIFIED

Authority NND 770097By 28 NARA Date 7-15-02ADDRESS REPLY TO
JUNIOR GENERAL, ARMY AIR FORCES
WASHINGTON, D. C.

CONFIDENTIAL

WAR DEPARTMENT
HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON, D. C.

AFDIN 2B/2

684

121640

SUBJECT: Fourth Air Force Bombing Ranges.

18 JAN 1945

TO: Commanding General, Fourth Air Force, 180 New Montgomery
Street, San Francisco, California.

1. Your attention is invited to the inclosed copy of a 6th Indorsement from the Second Air Force to your Headquarters with reference to the transfer of the bombing ranges for Geiger Field, Spokane, Washington, Ephrata Army Air Base, Ephrata, Washington, Moses Lake Army Air Field, Ephrata, Washington, and Walla Walla Army Air Field, Walla Walla, Washington, to your jurisdiction.

2. Interdepartmental Air Traffic Control Board records in this Headquarters vary considerably with the ranges listed in the attached General Orders No. 145, dated 7 December 1944, for Ephrata Army Air Base and Moses Lake Army Air Field.

3. It is requested that this Headquarters be submitted a complete list by latitude and longitude of the Ephrata Army Air Base and Moses Lake Army Air Field bombing ranges. It is further requested that these ranges be plotted on a Sectional Aeronautical Chart in order that records of this Headquarters and the Interdepartmental Air Traffic Control Board may be corrected accordingly.

By command of General ARNOLD:

*Lucius M. Sargent*LUCIUS M. SARGENT, Lt. Col., A. G.,
Ass't Chief, Air Installations Division
Office of Ass't Chief of Air Staff,
Material and Services.

1 Incl

Cpy 5th Ind. fr CG, 4AF
to CG, 2AF, dtd 11/30/44,
w/5th ind & G.O. #145

CONFIDENTIAL

①

1612182

CONFIDENTIAL

PM A 4760

684/105 (1-44)
JAN 23 1945
GOL 11 (official file Jan 45)

DECLASSIFIED

Authority AND 770097By 28 NARA Date 7-15-82

CONFIDENTIAL

BASIC: Ltr fr Hq 2nd AF, Colorado Springs, Colorado, dtd 22 Sep 44; File 601 Pd;
 Subj: Jurisdiction over Excess Bombing and Gunnery Ranges in the State of
 Washington.

684/5 (22-Sep 44)

5th Ind.

4AFES-8

HEADQUARTERS FOURTH AIR FORCE, San Francisco 6, California.

30 NOV 1944

121640

TO: Commanding General, Second Air Force, Colorado Springs, Colorado
 Across as stated in paragraph 3 of this memorandum, it is requested
 that this Headquarters and the Division Engineer, Real Estate Division Engineer,
 Real Estate Division Engineer, Colorado Springs, Colorado, concur in the transfer of subject ranges to
 Fourth Air Force effective 2400 hours 30 June 1944. For ready ref-
 erence, these ranges are listed as given in reference letter, paragraph
 1, basic:

For the Commanding General:

a. Ephrata Army Air Base:

- Precision Bombing Range No. 1
- Precision Bombing Range No. 2
- Precision Bombing Range No. 3
- Air to Ground Gunnery Range (Ephrata Pattern Gunnery Range)

b. Moses Lake Army Air Base:

- Precision Bombing Range No. 1
- Precision Bombing Range No. 2
- Precision Bombing Range No. 3
- Precision Bombing Range No. 4
- Precision Bombing Range No. 5
- Air to Ground Gunnery Range

c. Walla Walla Army Air Base:

- Cold Springs Bombing Range
- Boardman General Bombing and Gunnery Range

(a) 2. Attention is invited to the Omission, presumably inadvertent,
 of Ephrata Pattern Gunnery Range from this above list. It is requested
 that this range be included in the orders.

3. Inasmuch as Geiger Field is also assigned to the Fourth Air Force,
 it is desirable that the ranges appurtenant to that field be likewise
 transferred to the Fourth Air Force. These ranges, so far as known to this
 headquarters are:

- ✓ Adams County Pattern Gunnery Range *Canceled*
- ✓ Geiger Field Bombing Range (Harder Range)
- ✓ Geiger Field Precision High Altitude Bombing Range No. 2
 (Davenport)
- ✓ Geiger Field Precision Bombing Range No. 3
- ✓ Geiger Field Precision Bombing Range No. 4
- ✓ Geiger Field Precision Bombing Range No. 5

CONFIDENTIAL

CONFIDENTIAL

Incl #1

CONFIDENTIAL

PM A 4760

DECLASSIFIED

Authority NND 77.0097

By ~~28~~ NARA Date 7-15-02

2025-10-27

Subject: Jurisdiction over Kansas Gaming and Amusement Machine Laws,
Washington. (See CO, 229, State Spec. Colo. vs CO, Alf. Wash. DC,
and 22 Sept 44, Film 60270.)

THE INDEX

THE COMMANDING GENERAL, Fourth Air Force, 100 New Montgomery Street,
San Francisco 5, California. September 1945 and last 121640

For Commanding General, Fourth Air Force, 150 Ave Montgomery Street,
San Francisco, 4, California

121640

1. Reference is made to copy of notification General Order No. 145,
Headquarters Fourth Air Force, dated 1 December 1944, transferring the command
of the Fourth Air Force, Air Force, Pacific Area, and Fifth Air Force, Air
Force, to the jurisdiction of Fourth Air Force, effective 2400 hours 15 June
1945.

2. With reference to paragraph 1 at preceding 5th Indorsement, the Bureau Pattern Guntery Range is the name of the Air-to-Ground Guntery Range listed under Exhibit 1, 2nd Air Base.

3. With reference to notice listed under paragraph 3 of preceding 5th Intercomm, the same County Pattern Summary Range has been cancelled, the danger area has been released by the Inter-Departmental Air Traffic Control Board, and the danger area terminated on 22 December 1943.

4. With reference to paragraph 4 of preceding 7th Indorsement, the responsibility for subject ranges and the installations thereon has never been transferred from the West Engineers as subject bases. Therefore, it does not appear that transfer of responsibility for these ranges is required.

5. The Houston Railway Traffic Division, will be notified of the transfer of these freight to your Command and notified that this Command will certify invoice for period up to 30 June 1944 and that your Command will certify invoice for period subsequent to that date.

THE UNIVERSITY OF CHICAGO

James H. ...	James Co.	1	(1865-66)
James H. ...	James Co.	2	(1866-67)
James H. ...	James Co.	3	(1867-68)
James H. ...	James Co.	4	(1868-69)
James H. ...	James Co.	5	(1869-70)

2 Encls. Dr. Comptroller C. Major, Veterans
Cpy of Confidential General Order
No. 115 (orig.).

KAROL A. MCINNES,
Brigadier General, U.S.A.,
Dep. G/S, Maint. & Supply.

101 HQ, HQ, Wash. D. C., 10/15,
Material & Services, Air Installations
Division, 7/10 of Gen. Order No. 143.

~~CONFIDENTIAL~~

中国书画函授大学

100

二、五、七、九

ADJ. GEN

~~CONFIDENTIAL~~

PM A 4760

Appendix E-12

**Office of the Commanding General,
Second Air Force
1943**

**Acquisition of Bombing and Gunnery Ranges for
AAB Ephrata, Washington. 24 February. Record
Group 18, Entry 292A, Box 1498, File: Ephrata.
National Archives II,
College Park, MD.**

Authority DDO DER 50070
By LCMARA Date 7/16/02

HEADQUARTERS SECOND AIR FORCE

OFFICE OF THE COMMANDING GENERAL

Fort George Wright, Washington

601 F

February 24, 1943.

Please Address Reply To:

COMMANDING GENERAL,
Headquarters, Second Air Force,
Fort George Wright, Washington.

SUBJECT: Acquisition of Bombing & Gunnery Ranges for
AAB Ephrata, Washington.

TO : Commanding General, Army Air Forces, Washington, D. C.
Directorate of Base Services.

1. Reference is made to TWX 2AF J 3610 F dated January 26, 1943 requesting clearance of area for the establishment of high altitude bombing range, air-to-ground gunnery range and low altitude bombing range for Moses Lake AAB. It is requested that the following described sites lying within the above clearance be immediately acquired for use of this Air Force:

Pattern Bombing Range:

All of Sections 31 and 32 in Twp. 24 North, Range 26 East.
All of Sections 5 and 6 in Twp. 23 North, Range 26 East.

Pattern Gunnery Range:

All of Sections 15, 16, 20, 21, 28, 29, 31 and 32 in Twp. 24 North, Range 25 East; All of Sections 5, 6 and 7 in Twp. 23 North, Range 25 East; E $\frac{1}{2}$ Section 17, E $\frac{1}{2}$ Section 30, W $\frac{1}{2}$ Section 33, and W $\frac{1}{2}$ Section 22, all in Twp. 24 North, Range 25 East; E $\frac{1}{2}$ Section 1 and E $\frac{1}{2}$ Section 12 in Twp. 23 North, Range 24 East; W $\frac{1}{2}$ Section 8, in Twp. 23 North, Range 25 East, in Douglas County, Washington.

Area Bombing Target:

All of Sections 22, 23, 26 and 27 in Twp. 25 North, Range 25 East, in Douglas County, Washington.

2. In addition to the above, it is requested that the following described area be acquired as a high altitude bombing range:

All of Sections 22, 23, 26, 27, 34 and 35 in Twp. 26 North, Range 26 East, in Douglas County, Washington.

This site lies outside of the cleared area referenced in paragraph one above. It will therefore be necessary to have Interdepartmental Air

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CENTRAL MAIL SECTION AAF

- 1 -

RBS-132

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RGR

E292A

B 1498

F Ephrata

Washington, D. C. File 601 F

February 24, 1943

Control Board clearance for this range as follows:

North boundary Latitude $47^{\circ} 44' 30''$
East boundary Longitude $119^{\circ} 30'$
South boundary Latitude $47^{\circ} 41'$
West boundary Longitude $119^{\circ} 33'$

3. A portion of a Spokane sectional chart is inclosed herewith on which the areas as above described have been plotted.

4. These ranges are required for the use of units to be stationed at Ephrata Army Air Base. The present Ephrata ranges south of Green Airway No. 2 will be required for the use of units to be stationed at the new Moses Lake Army Air Base. It is impracticable for units of both bases to use the same ranges in view of the intense concentration of training activities to be conducted both at Ephrata and at Moses Lake. By separating the local flying training areas generally north and south of the airway, it will be possible to maintain a reasonable separation of flight patterns to avoid conflicts in air traffic. The acquisition of these new ranges for Ephrata is therefore necessary. The sites selected are located for the most part in uninhabited wasteland and the land should be easily and quickly available.

5. This Headquarters is requesting the U. S. Division of Land and Buildings, Pacific Division to prepare gross appraisals and real estate information reports. It is expected that these ranges will be required for use during the month of March and it is therefore important that every possible means be utilized to expedite acquisition.

For the Commanding General:

1 Incl:
Chart.



APPROVED	
FORWARDED	
RECEIVED	
DATE	
TIME	
BY	
NAME	
TITLE	
DEPARTMENT	
BRANCH	
OFFICE	
MAIL ROOM	
RECORDS	
TRAINING	
W. L. M. A. 1000	

JOHN L. GRIMES
Colonel A. G. D. and
Major A. J. D. General

Central file -
Each project is
being handled by an
individual claim of
correspondence
from the C. G. E.
JCS/5/5/43

Appendix E-13

**Office of the Division Engineer, Pacific Division
1943a**

**Gross Appraisal. 29 April. Record Group 18,
Entry 292A, Box 1498, File: Ephrata.
National Archives II,
College Park, MD.**

COPY

WAR DEPARTMENT
OFFICE OF THE DIVISION ENGINEER
PACIFIC DIVISION
SALT LAKE CITY, UTAH

AAF #1

CE 601. RE-FO (Ephrata Pattern Bombing
Range - Douglas County, Wash.)

April 29, 1943

SUBJECT: Gross Appraisal

TO: The Chief of Engineers,
U. S. Army
Washington, D. C.

1. Inclosed in triplicate is Gross Appraisal dated March 23, 1943 pertaining to approximately 2,510.24 acres in Douglas County, Washington, under consideration for use as Ephrata Pattern Bombing Range.

2. This Gross Appraisal has been approved by Reviewing Appraiser, Portland Sub-Office.

3. Of the 2,510.24 acres comprising this area, only 615.12 acres are State lands; 118 acres are County lands, 116 of which are under sales contract. There are no irrigated lands in the project. Only 230 acres of the area have been under cultivation for grain and are at present in summer fallow. Improvements are reported to consist of a few deserted homestead shacks and one dilapidated house valued at a total of \$200.00. There are no families living in this area. No acquisition problems are reported nor is there necessity for the relocation of public utilities.

4. Request for subject property and clearance by the Interdepartmental Air Traffic Control Board was made February 24, 1943 by the Commanding General, Headquarters, Second Air Force, Fort George Wright, Washington to the Commanding General, Army Air Forces, Washington, D. C., directorate of base services, File 601 F, subject: Acquisition of Bombing and Gunnery Ranges for AAB, Ephrata, Washington.

5. It is recommended that the use of the area be acquired thru leases, and it is requested that a Real Estate directive be issued to permit the necessary leasing. The opinion of annual fair rental value given in the inclosed report is \$800.00. Crop damage estimated in the report to be \$700.00 can be compensated for in the first lease period. Twelve of the 16 tracts comprising this area are privately owned and it is therefore recommended that immediate possession be made available thru filing of an Emergency Condemnation under the War Powers Act.

For the Division Engineer:

/s/ M. J. O'Byrne
Lt. Col., Corps of Engineers,
Acting Division Real Estate Officer1 Incl.
Gr. Appraisal 3-23-43
(in trip.)

NARA-II

RG-18

E 292A

B 1498

F Ephrata

(30)

601

Ephrata Pattern Bombing Range

5827

SUBJECT: Gross Appraisal - Report on Potential Bombing Range.

2nd Incl.

ON 601.1 (Sphrata Bomb. Range Wash.) SPEER

Re: Report on Potential Bombing Range, Army Air Forces, Washington

SUBJECT: Gross Appraisal - Sphrata Pattern Bombing Range, Washington.

1. In view of the fact that the land in question appears to be of small value, it is suggested that with facilities to acquire the same, it is not believed necessary to refer the matter to the Assistant Secretary of the Office of Engineers, May 27, 1943, as to acquisition price. The appraisal would indicate that there will be no difficulty in acquiring the same.

To: The Commanding General, Army Air Forces, A.C.A.S. - M.H.D.

2. This also lies within an area owned by the International Air Traffic Council transmitted herewith in Gross Appraisal Report in connection with the acquisition of approximately 2510.24 acres of land to provide a site for a Pattern Bombing Range in Douglas County, Washington, to serve the Sphrata Airfield.

2. Your remarks and recommendations are requested.

For the Chief of Engineers:
 Assistant and Brother Station
 Chief Air Staff, M.H.D.

1 Incl. 3/6

JOHN J. O'BRIEN,
 Colonel, Corps of Engineers,
 Chief, Real Estate Branch.

1 Incl.

Gross Appraisal Report 3-33-43.

601

Commanding General,
 Second Air Force,
 Fort George Wright,
 Spokane, Washington.



OFFICIALS									
CHIEF OF ENGINEERS	1	2	3	4	5	6	7	8	9
ASSISTANT CHIEF OF ENGINEERS	1	2	3	4	5	6	7	8	9
CHIEF OF STAFF	1	2	3	4	5	6	7	8	9
CHIEF OF BUREAU	1	2	3	4	5	6	7	8	9
CHIEF OF SECTION	1	2	3	4	5	6	7	8	9
CHIEF OF DIVISION	1	2	3	4	5	6	7	8	9
CHIEF OF BRANCH	1	2	3	4	5	6	7	8	9
CHIEF OF OFFICE	1	2	3	4	5	6	7	8	9

5827

FOR THE DIVISION ENGINEER

PACIFIC DIVISION

SUBJECT: Gross Appraisal of Spokane Eastern Bombing Range, Washington.

Lieutenant Colonel Robert L. Jones

AFDSS (23-2)

Spokane, Washington, Wash.

April 23, 1943

War Department, Headquarters, Army Air Forces, Washington, D. C., June 2, 1943. To: Chief of Engineers, Construction Division, Real Estate Branch.

1. In view of the fact that the land in question appears to be of small value, it is requested action be instituted to acquire the range. It is not believed necessary to refer the matter to the Assistant Secretary of War for Air, unless some problem relative to acquisition arises. The appraisal would indicate that there will be no difficulty in acquiring the land, to approximately 2,510.24 acres in Douglas County, Washington, which is located near the use as Spokane Eastern Bombing Range.

2. This site lies within an area cleared by the Interdepartmental Air Traffic Control Board in Meeting No. 328, approved by Reviewing Agencies, and is as follows:

For the Commanding General, Army Air Forces:

3. Of the 2,510.24 acres comprising this area, only 615.12 acres are State lands; 189 acres are County lands, 116 of which are under sales contract. There are no irrigated lands in the tract. C. SHIVERS, Owner of the area have been under cultivation for grain and alfalfa. Buildings and grounds Section now, however, are reported to consist of a few small buildings. The estimated value of the property is valued at a total of \$400.00. There are no families living in this area. No acquisition problems are reported nor is there necessary for the relocation of public utilities.

4. Request for subject property and clearance by the Interdepartmental Air Traffic Control Board was made February 24, 1943 by the Commanding General, Headquarters, Second Air Force, Fort George Wright, Washington to the Commanding General, Army Air Forces, Washington, D. C., Directorate of Base Services, File 501 E, subject: Acquisition of Bombing and Gunnery Ranges for 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 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1252nd, 1253rd, 1254th, 1255th, 1256th, 1257th, 1258th, 1259th, 1260th, 1261st, 1262nd, 1263rd, 1264th, 1265th, 1266th, 1267th, 1268th, 1269th, 1270th, 1271st, 1272nd, 1273rd, 1274th, 1275th, 1276th, 1277th, 1278th, 1279th, 1280th, 1281st, 1282nd, 1283rd, 1284th, 1285th, 1286th, 1287th, 1288th, 1289th, 1290th, 1291st, 1292nd, 1293rd, 1294th, 1295th, 1296th, 1297th, 1298th, 1299th, 1300th, 1301st, 1302nd, 1303rd, 1304th, 1305th, 1306th, 1307th, 1308th, 1309th, 1310th, 1311st, 1312nd, 1313rd, 1314th, 1315th, 1316th, 1317th, 1318th, 1319th, 1320th, 1321st, 1322nd, 1323rd, 1324th, 1325th, 1326th, 1327th, 1328th, 1329th, 1330th, 1331st, 1332nd, 1333rd, 1334th, 1335th, 1336th, 1337th, 1338th, 1339th, 1340th, 1341st, 1342nd, 1343rd, 1344th, 1345th, 1346th, 1347th, 1348th, 1349th, 1350th, 1351st, 1352nd, 1353rd, 1354th, 1355th, 1356th, 1357th, 1358th, 1359th, 1360th, 1361st, 1362nd, 1363rd, 1364th, 1365th, 1366th, 1367th, 1368th, 1369th, 1370th, 1371st, 1372nd, 1373rd, 1374th, 1375th, 1376th, 1377th, 1378th, 1379th, 1380th, 1381st, 1382nd, 1383rd, 1384th, 1385th, 1386th, 1387th, 1388th, 1389th, 1390th, 1391st, 1392nd, 1393rd, 1394th, 1395th, 1396th, 1397th, 1398th, 1399th, 1400th, 1401st, 1402nd, 1403rd, 1404th, 1405th, 1406th, 1407th, 1408th, 1409th, 1410th, 1411st, 1412nd, 1413rd, 1414th, 1415th, 1416th, 1417th, 1418th, 1419th, 1420th, 1421st, 1422nd, 1423rd, 1424th, 1425th, 1426th, 1427th, 1428th, 1429th, 1430th, 1431st, 1432nd, 1433rd, 1434th, 1435th, 1436th, 1437th, 1438th, 1439th, 1440th, 1441st, 1442nd, 1443rd, 1444th, 1445th, 1446th, 1447th, 1448th, 1449th, 1450th, 1451st, 1452nd, 1453rd, 1454th, 1455th, 1456th, 1457th, 1458th, 1459th, 1460th, 1461st, 1462nd, 1463rd, 1464th, 1465th, 1466th, 1467th, 1468th, 1469th, 1470th, 1471st, 1472nd, 1473rd, 1474th, 1475th, 1476th, 1477th, 1478th, 1479th, 1480th, 1481st, 1482nd, 1483rd, 1484th, 1485th, 1486th, 1487th, 1488th, 1489th, 1490th, 1491st, 1492nd, 1493rd, 1494th, 1495th, 1496th, 1497th, 1498th, 1499th, 1500th, 1501st, 1502nd, 1503rd, 1504th, 1505th, 1506th, 1507th, 1508th, 1509th, 1510th, 1511st, 1512nd, 1513rd, 1514th, 1515th, 1516th, 1517th, 1518th, 1519th, 1520th, 1521st, 1522nd, 1523rd, 1524th, 1525th, 1526th, 1527th, 1528th, 1529th, 1530th, 1531st, 1532nd, 1533rd, 1534th, 1535th, 1536th, 1537th, 1538th, 1539th, 1540th, 1541st, 1542nd, 1543rd, 1544th, 1545th, 1546th, 1547th, 1548th, 1549th, 1550th, 1551st, 1552nd, 1553rd, 1554th, 1555th, 1556th, 1557th, 1558th, 1559th, 1560th, 1561st, 1562nd, 1563rd, 1564th, 1565th, 1566th, 1567th, 1568th, 1569th, 1570th, 1571st, 1572nd, 1573rd, 1574th, 1575th, 1576th, 1577th, 1578th, 1579th, 1580th, 1581st, 1582nd, 1583rd, 1584th, 1585th, 1586th, 1587th, 1588th, 1589th, 1590th, 1591st, 1592nd, 1593rd, 1594th, 1595th, 1596th, 1597th, 1598th, 1599th, 1600th, 1601st, 1602nd, 1603rd, 1604th, 1605th, 1606th, 1607th, 1608th, 1609th, 1610th, 1611st, 1612nd, 1613rd, 1614th, 1615th, 1616th, 1617th, 1618th, 1619th, 1620th, 1621st, 1622nd, 1623rd, 1624th, 1625th, 1626th, 1627th, 1628th, 1629th, 1630th, 1631st, 1632nd, 1633rd, 1634th, 1635th, 1636th, 1637th, 1638th, 1639th, 1640th, 1641st, 1642nd, 1643rd, 1644th, 1645th, 1646th, 1647th, 1648th, 1649th, 1650th, 1651st, 1652nd, 1653rd, 1654th, 1655th, 1656th, 1657th, 1658th, 1659th, 1660th, 1661st, 1662nd, 1663rd, 1664th, 1665th, 1666th, 1667th, 1668th, 1669th, 1670th, 1671st, 1672nd, 1673rd, 1674th, 1675th, 1676th, 1677th, 1678th, 1679th, 1680th, 1681st, 1682nd, 1683rd, 1684th, 1685th, 1686th, 1687th, 1688th, 1689th, 1690th, 1691st, 1692nd, 1693rd, 1694th, 1695th, 1696th, 1697th, 1698th, 1699th, 1700th, 1701st, 1702nd, 1703rd, 1704th, 1705th, 1706th, 1707th, 1708th, 1709th, 1710th, 1711st, 1712nd, 1713rd, 1714th, 1715th, 1716th, 1717th, 1718th, 1719th, 1720th, 1721st, 1722nd, 1723rd, 1724th, 1725th, 1726th, 1727th, 1728th, 1729th, 1730th, 1731st, 1732nd, 1733rd, 1734th, 1735th, 1736th, 1737th, 1738th, 1739th, 1740th, 1741st, 1742nd, 1743rd, 1744th, 1745th, 1746th, 1747th, 1748th, 1749th, 1750th, 1751st, 1752nd, 1753rd, 1754th, 1755th, 1756th, 1757th, 1758th, 1759th, 1760th, 1761st, 1762nd, 1763rd, 1764th, 1765th, 1766th, 1767th, 1768th, 1769th, 1770th, 1771st, 1772nd, 1773rd, 1774th, 1775th, 1776th, 1777th, 1778th, 1779th, 1780th, 1781st, 1782nd

Appendix E-14

**War Department
1945**

**Change of Status, Ephrata Army Air Field,
Ephrata, Washington. 6 October.
Record Group 18, Entry 1A, Box 291,
File: 686 Vol. II.
National Archives II,
College Park, MD.**



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DECLASSIFIED

Authority NND 770097

HEADQUARTER: By 28 NARA Date 7-15-82 :E

OFFICE OF THE

180 NEW MONTGOMERY STREET
SAN FRANCISCO, 6, CALIFORNIA

6 OCT 1945

4AFCE-9



686/4 Ephrata

SUBJECT: Change of Status, Ephrata Army Air Field, Ephrata, Washington

TO : Commanding General, Continental Air Forces, Bolling Field 20, D. C.

1. Reference is made to teletype A404A-2479, received 25 September 1945, and to confidential TTX C-571, this Headquarters, dated 5 September 1945. In accordance with WD Circular 89, dated 20 March 1945, and AAF Regulation 85-3, Ephrata Army Air Field and appurtenant Gunnery Ranges are reported as not required by Fourth Air Force for postwar operations. It is requested this Headquarters be relieved of responsibility for the field and gunnery ranges.

2. Data pertaining to this field as required by paragraph 11, AAF Regulation 85-3 are as follows:

- a. Ephrata Army Air Field.
 - b. Located approximately one mile east of Ephrata, Washington.
 - c. The field consists of 2671.326 acres which are held as follows:
 - (1) 41.10 acres - Government owned.
 - (2) 2017 acres under four leases - W2666-eng-130, W2666-eng-131; W2666-eng-129 and W04-193-eng-3843, at a total annual rental of \$4.00.
 - (3) 480 acres under two free permits; 320 acres from a private owner and 160 acres from the Department of Interior.
 - (4) 13.226 acres under perpetual easements.
 - (5) 120 acres in process of being acquired in the form of a free use permit from the Department of Interior.
 - d. A list of constructed facilities is inclosed.
 - e. All facilities are in good condition with the exception of the water distribution system, which is reported as being poor, due to the contin-

7/11

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DECLASSIFIED
E.O. 11652, Sec. 3(c) and 3(d) or (e)
OSD letter, May 3, 1972
By 28/107 NARS Date 6/19/82

5 2942 658

NARA II

RG 18

E 1A

Box 291

F: 626

DEL II

Ltr to CAF, Subject: "Change of
Washington", File 686, continued.

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DECLASSIFIED
Authority AND 770097
By 28 NARA Date 7-15-02

ir Field, Ephrata,

ually increasing deterioration of the wood stave water pipe line.

f. This field has been used for the training of heavy bomber combat crews.

g. Date available - 30 September 1945.

h. There are no auxiliary facilities except those which are reported upon in this letter.

i. Records of this Headquarters disclose no contractual commitments affecting disposal of this field.

j. No services are currently being rendered to other Federal Agencies.

k. Recommended for surplus status.

3. Data pertaining to Ephrata Ground-to-Ground Gunnery Range, as required by paragraph 11, AAF Regulation 85-3, are as follows:

a. Ephrata Ground-to-Ground Gunnery Range; also known as Alkali or Soap Lake.

b. Located approximately nine miles north of Ephrata Army Air Field and identified as 47° 27' North latitude and 119° 31' West longitude.

c. The range consists of 697.51 acres of land under leases W04-193-eng-3780 and W3460-eng-987, at a total annual rental of \$2.00.

d. There are no constructed facilities located on the range except a few troop labor built targets.

e. Not applicable.

f. The range was used for ground gunnery training of heavy bomber combat crews.

g. Date available - 30 September 1945.

h. No auxiliary facilities.

i. Records of this Headquarters disclose no contractual commitments

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Authority AND 770097

By 28 NARA Date 7-15-02

Ltr to CAF, Subject: "Change of Washington", File 686, continued.

Field, Ephrata,

affecting disposal of this range.

j. No services are currently being rendered to other Federal Agencies.

k. Recommended for surplus status.

4. Data pertaining to Ephrata Precision Bombing Range No. 1, as required by paragraph 11, AAF Regulation 85-3, are as follows:

a. Ephrata Precision Bombing Range No. 1; also known as the Bright High Altitude Bombing Range and Ephrata Pattern Bombing Range.

b. Located approximately 15 miles northwest of Ephrata Army Air Field and identified as 47° 30' North latitude and 119° 35' West longitude.

c. The range consists of 2460.12 acres of leased land under the following leases in the W04-193-eng- series: 4271, 4219, 4214, 3515, 3138, 2755, 2734, 1866, 1820, 1818, 1766 and 1761, at a total annual rental of \$1408.90.

d. Constructed facilities are as follows:

(1) One portable radio shed, 64 square feet.

(2) One portable motor generator shed, 64 square feet.

(3) Several troop labor built targets.

e. Facilities are reported to be in a fair condition.

f. The range was used for high altitude bombing training of heavy bomber combat crews.

g. Date available - 30 September 1945.

h. No auxiliary facilities.

i. Records of this Headquarters disclose no contractual commitments affecting disposal of this range.

j. No services are currently being rendered to other Federal Agencies.

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Authority AND 770097

By 22 NARA Date 7-15-82

Ltr to CAT, Subject: "Change of Washington", File 686, continued By 22 NARA Date 7-15-82 Air Field, Ephrata,

k. Recommended for surplus status.

5. Data pertaining to Ephrata Precision Bombing Range No. 3, as required by paragraph 11, AAF Regulation 85-3, are as follows:

a. Ephrata Precision Bombing Range No. 3; also known as the St. Andrews Air-to-Ground Gunnery Range.

b. Located approximately 26 miles north of the Ephrata Army Air Field and identified as 47° 42' North latitude and 119° 37' West longitude.

c. The range consists of 3762 acres of leased land under the following lease numbers in the W04-193-eng-series: 2433, 2340, 2200, 1847, 1750, and 1718, at a total annual rental of \$374.15.

d. Constructed facilities are as follows:

(1) Five 16x16 Hutments.

(2) One Pit Latrine and shower.

(3) One Latrine.

(4) Two Double Hutments.

(5) Two Open Sheds.

(6) Several troop labor built Targets.

e. Facilities are reported to be in fair condition.

f. The range was used for the training of heavy bomber combat crews.

g. Date available - 30 September 1945.

h. No auxiliary facilities.

i. Records of this Headquarters disclose no contractual commitments affecting disposal of this range.

j. No services are currently being rendered to other Federal Agencies.

k. Recommended for surplus status.

-4-

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DECLASSIFIED

E.O. 11652, Sec. 3(E) and 5(D) or (E)

OSD letter May 3, 1972

By 7807 NARS Date 11/9/72

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DECLASSIFIED

Authority AND 770097By 22 NARA Date 7-15-02

Ltr to CAF, Subject: "Change of Washington", File 686, continued. Air Field, Ephrata.

6. Data pertaining to Moses Lake Precision Bombing Range No. 1, as required by paragraph 11, AAF Regulation 85-3, are as follows:

a. Moses Lake Precision Bombing Range No. 1.

b. Located approximately 12 miles southeast of Ephrata Army Air Field and identified as 47° 03' North latitude and 119° 26' West longitude.

c. The range consists of 3040 acres of Government owned land acquired as follows:

- (1) 1920 acres from the State of Washington by an Option of purchase at the cost of \$1.00.
- (2) 1120 acres by Declaration of Taking, filed in the U. S. District Court, Eastern District of Washington, 9 September 1941, Case No. 211, cost unknown.
- (3) 800 acres of public domain land withdrawn for WD use by Executive Order 8915, dated 11 October 1941.

d. No constructed facilities are located on the range, except for several troop labor built targets.

e. Not applicable.

f. The range was used for the training of heavy bomber combat crews.

g. Date available - 30 September 1945.

h. No auxiliary facilities.

i. Records of this Headquarters disclose no contractual commitments affecting disposal of this range.

j. No services are currently being rendered to other Federal Agencies.

k. Recommended for surplus status.

7. Data pertaining to Moses Lake Precision Bombing Range No. 2, as required by paragraph 11, AAF Regulation 85-3, are as follows:

a. Moses Lake Precision Bombing Range No. 2.

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Ltr to CAT, Subject: "Change of
Washington", File 686, continued.

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Authority AND 770097
By 22 NARA Date 7-15-02

b. Located approximately 18 $\frac{1}{2}$ miles southwest of Ephrata Army Air Field and identified as 47° 04' North latitude and 119° 40' West longitude.

c. The range consists of 2400 acres of Government owned land acquired as follows:

- (1) 2080 acres by Declaration of Taking, filed in the U. S. District Court, Eastern District of Washington, 9 September 1941, Case Number 211, cost unknown.
- (2) 320 acres of public domain land withdrawn for WD use by Executive Order 8922 on 26 December 1941.

d. No constructed facilities are located on the range, except for several troop labor built targets.

e. Not applicable.

f. The range was used for the training of heavy bomber combat crews.

g. Date available - 30 September 1945.

h. No auxiliary facilities.

i. Records of this Headquarters disclose no contractual commitments affecting disposal of this range.

j. No services are currently being rendered to other Federal Agencies.

k. Recommended for surplus status.

FOR THE COMMANDING GENERAL:

1 Incl: List of Constructed Facilities

cc: CO Ephrata Army Air Field
Div Engr., San Francisco

George E. Rohde
GEORGE E. RORDE,
Captain, A.G.D.,
Ass't., ADJ. GEN.

DECLASSIFIED
E.O. 11652, Sec. 302 and 303 or (C)
by OSD letter, May 3, 1972
BY 22 NARS Date 4/9/72

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Authority AND 770097

By 28 NARA Date 7-15-02

1 October 1945

RUNWAYS

<u>DIRECTION</u>	<u>SIZE</u>	<u>SURFACE MATERIAL</u>	<u>BASE MATERIAL</u>	<u>GROSS LOAD EVALUATION</u> Capacity	<u>Limited</u>
EW/SE	7305'x150'	5" Concrete Bit	12" Basalt	96,000#	150,000#
N/S	6330'x150'	2" Bit	13" Basalt	50,000#	150,000#
NE/SW	6705'x150'	2" Bit	13" Basalt	60,000#	150,000#

675' of the EW/SE runway used as taxiway.

No hardstandings.

APRON

<u>SIZE</u>	<u>SURFACE MATERIAL</u>	<u>BASE MATERIAL</u>	<u>GROSS LOAD EVALUATION</u> Capacity	<u>Limited</u>
600'x3466'	3" Bit	22" Selected	120,000#	150,000#

GASOLINE

<u>NO. TANKS</u>	<u>CAPACITY</u> (Gallons)	<u>TOTAL</u> (Gallons)	<u>SYSTEM</u>
6	25,000	200,000	Mechanical
1	10,000	10,000	Mechanical
		<u>TOTAL</u>	
		210,000	

CONTROL TOWER

1 - Control Tower.

LIGHTING

Permanent. Includes contact lights, range lights, obstruction lights and 24" rotating and flash beacon.

CAMPONMENT

Housing capacity for 1097 male white officers, 34 female white officers, 3362 male white enlisted personnel, 112 female white enlisted personnel. (Based on 120 s/f per officer, 60 s/f per enlisted person).

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Authority AND 770097By 88 NARA Date 7-15-02

Training Aids and Special Buildings:

BUILDING	TYPE	SIZE
1 - Base Headquarters	CBHT & CBPT (Mod)	120'x132'
2 - Group Administrative and Operations	CBHT	100'x130'
1 - Base Operations	CBHT (Mod)	100'x140'/20'x24'
3 - Squadron Operations	HANG-C-A	100'x140'
2 - Hangars	HANG-C-A	125'x202'
2 - Hangars	Butler Portable	130'x160'
1 - Hanger	HANG-P-A	202'x225'
1 - Crash Truck Station	FSBT-	48'x38'
1 - Fire Station	T-F-1	48'x34'
1 - Link Trainer	LINK-C-A	25'x108'
4 - CWT Buildings	CWL-A-A	27'x27'
1 - NAVI-Trainer	SHBT (Mod)	20'x64'
- Bomb Trainer	BTB-1	60'x60'
- Altitude Trainer		25'x106' overall
1 - Photo Lab	PHC-A-A	25'x27'
3 - School Buildings	CCC	20'x100'
1 - School Building	SCH-A-A	108'x124'
2 - Technical Schools	CBHT	100'x140'
1 - Finance Building	FBAT	20'x100'
1 - Post Office	PCBT	100'x120'
1 - Tel & Tel Building	TT-5	25'x100'
1 - Post Office	CBGT	20'x140'
1 - Base Publications	CCC	20'x100'
1 - Bombsight Storage Building	BCMB-B-A	24'x50'
1 - Infirmary	I-4	25'x111'
1 - Infirmary	INF-B-H	25'x31'
1 - Clinic and Lab	G-I and C	25'x150'
1 - Flight Surgeon's Building	FS-1	25'x78'
1 - Dental Clinic	DS-3	25'x70'
- Wards	W-1	25'x150'
3 - Wards	WA RD-D-H	25'x150'
1 - Detention Ward	WARD-I-H	25'x150'
1 - Officers Recreation Building	SER-E-H	70'x173'
1 - Civilian Recreation Building	RCBT	20'x44'
1 - Chapel	CH-1	37'x98'
1 - Theater	TAAT	58'x168'
1 - Service Club	SER-D-H	70'x173'
1 - Base Engineer Shop	SHOP-G-A	120'x150'
1 - Clothing and Equipment Shop	CBHT	100'x120'
1 - Utility Shop	SP-B-T	20'x280'
1 - Salvage Building	CCC	20'x135'
1 - Warehouse	WEAT	32'x150'

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By 22 NARA Date 7-15-02

BUILDING

- 8 - Warehouses
- 3 - Warehouses
- 2 - Warehouses, Ord.
- 1 - Cold Storage Warehouse
- 1 - Hospital Store House
- 1 - Storage Building
- 1 - Small Arms Ammunition Storage
- 1 - Chemical Storage Magazine
- 1 - Segregated Storage Magazine
- 1 - Black powder igloo
- 2 - Pyrotechnic Magazines

TYPE

- WHET
- CCC
- SEAT
- STGE-Q-H
- SH-5
- CCC
- CBKT
- MAG-J-C
- MAG-E-C
- MAG-E-C
- MAG-J-C

SIZE

- 50'x192'
- 20'x136'
- 20'x100'
- 60'x75'
- 25'x126'
- 20'x120'
- 20'x48'
- 14'x16'
- 10'x40'
- 26'x40'
- 14'x16'

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APPENDIX F

REAL ESTATE DOCUMENTS

APPENDIX F - REAL ESTATE DOCUMENTS

The archive search did not locate any real estate information that contradicted or modified the information contained in the Inventory Project Report (INPR) for the **Ephrata Pattern Bombing Range No. 4** furnished in **Appendix D-1**. Complementary real estate documents were gathered and reviewed but not presented here. These documents will be stored with all the original ASR information.

APPENDIX G
NEWSPAPERS/JOURNALS
(Not Used)

APPENDIX H

SUMMARY OF INTERVIEWS

APPENDIX H - SUMMARY OF INTERVIEWS

- H-1** Interview between Mr. David Tajkowski, St. Louis District and Mr. Don Dorsey, Property Owner, Douglas County, Washington
- H-2** Interview between Mr. David Tajkowski, St. Louis District and Mr. Edward Preston, Property Owner, Douglas County, Washington
- H-3** Interview between Mr. David Tajkowski, St. Louis District and Mr. Paul Malone, Property Owner, Douglas County, Washington
- H-4** Interview between Mr. David Tajkowski, St. Louis District and Mr. Westley Roberts, Property Owner, Douglas County, Washington

APPENDIX H-1

**Interview between Mr. David Tajkowski,
St. Louis District and Mr. Don Dorsey,
Property Owner, Douglas County,
Washington**

TELEPHONE OR VERBAL CONVERSATION RECORD

DATE

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION		
Site Visit to Ephrata PBR #4: 31 July 2002		
INCOMING CALL		
PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION
OUTGOING CALL		
PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION
David Tajkowski	CEMVS-ED-P	(314) 331-8841
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION
Don Dorsey	Property Owner	(509) 884-1234

SUMMARY OF CONVERSATION:

Mr. Dorsey is the owner of portions of Sections 31 and 32, T24N and R 26E. He gave us verbal permission to walk the site. The land has been farmed until recently, but it is now part of the Conservation Reserve Program and is covered by native grasses. He did not require further contact prior to the site visit.

He asked me to contact the property manager Mr. James Ruud (502) 745-8502. I contacted Mr. Ruud and informed him of our plans, and he did not require further contact prior to the site visit.

APPENDIX H-2

**Interview between Mr. David Tajkowski,
St. Louis District and Mr. Edward Preston,
Property Owner, Douglas County,
Washington**

TELEPHONE OR VERBAL CONVERSATION RECORD

DATE

For use of this form, see AR340-15: the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION		
Site Visit to Ephrata PBR #4: 01 August 2002		
INCOMING CALL		
PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION
OUTGOING CALL		
PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION
David Tajkowski	CEMVS-ED-P	(314) 331-8841
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION
Edward Preston	Property Owner	(509) 683-1081

SUMMARY OF CONVERSATION:

Mr. Preston is the owner of the Southwest ¼ of Section 31, T24N and R 26E. He gave us verbal permission to walk the site. He is not sure if he will be in the area on 13 August, but if he is he may wish to accompany us. I will call him on the 12th to confirm our plans. He believes that there is nothing on the property that remains a hazard.

APPENDIX H-3

**Interview between Mr. David Tajkowski,
St. Louis District and Mr. Paul Malone,
Property Owner, Douglas County,
Washington**

TELEPHONE OR VERBAL CONVERSATION RECORD

DATE

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION

Site Visit to Ephrata PBR #4; 01 August 2002

INCOMING CALL

PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION

OUTGOING CALL

PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION
David Tajkowski	CEMVS-ED-P	(314) 331-8841
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION
Paul Malone	Property Owner	(509) 632-5582

SUMMARY OF CONVERSATION:

Mr. Malone is the owner or part-owner of most of Section 5, T23N and R 26E. He also leases Section 6 from the State of Washington. He gave us verbal permission to walk the site. He is not sure if he will be in the area on 13 August, but if he is he may wish to accompany us. I will call him on the 12th to confirm our plans.

When I ask if they still find military debris on the site, he said that they do find items frequently and he has piled them up on the western end of the site. Most of the property is farmed, but he has allowed some of it to return to natural grassland. He destroyed several wooden A-frame structures several years ago in the northeast ¼ of Section 5. He believes that these were built by the military.

APPENDIX H-4

**Interview between Mr. David Tajkowski,
St. Louis District and Mr. Westley Roberts,
Property Owner, Douglas County,
Washington**

TELEPHONE OR VERBAL CONVERSATION RECORD

DATE

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION		
Site Visit to Ephrata PBR #4; 31 July 2002		
INCOMING CALL		
PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION
OUTGOING CALL		
PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION
David Tajkowski	CEMVS-ED-P	(314) 331-8841
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION
Westley Roberts	Property Owner	(509) 632-5430

SUMMARY OF CONVERSATION:

Mr. Roberts is the owner or part-owner of most of Sections 31 and 32, T24N and R 26E. He gave us verbal permission to walk the site. He is semi-retired, and the land is not currently farmed, but it has been used for agriculture until just recently. He did not require any further contact from us prior to the site visit. To his knowledge nothing hazardous remains on the property.

APPENDIX I

PRESENT SITE PHOTOGRAPHS

APPENDIX I - PRESENT SITE PHOTOGRAPHS

PAGE	DESCRIPTION
Page I-2	
Photo #1	View North Along Whitehall Road SE From Near Intersection With Southwest Corner of Section 6 and Southwest Corner of Section 5, T23N, R26E. (GPS N 47° 30' 47", W 119° 35' 53.5")
Photo #2	Piece of Practice Bomb Found in Section 5, T23N, R26E (Near GPS N 47° 31' 16.0", W 119° 35' 10.2")
Page I-3	
Photo #3	General North View Taken in Section 5, T23N, R26E (Near GPS N 47° 31' 33.3", W 119° 35' 06.1")
Photo #4	Pile of Bomb Debris Located Just off of Whitehall Road SE at GPS N 47° 31' 22.9", W 119° 35' 53.1"



PHOTO #1

**View North Along Whitehall Road SE From Near Intersection With
Southwest Corner of Section 6 and Southwest Corner of Section 5,
T23N, R26E. (GPS N 47° 30' 47", W 119° 35' 53.5")**



PHOTO #2

**Piece of Practice Bomb Found in Section 5, T23N, R26E
(Near GPS N 47° 31' 16.0", W 119° 35' 10.2")**

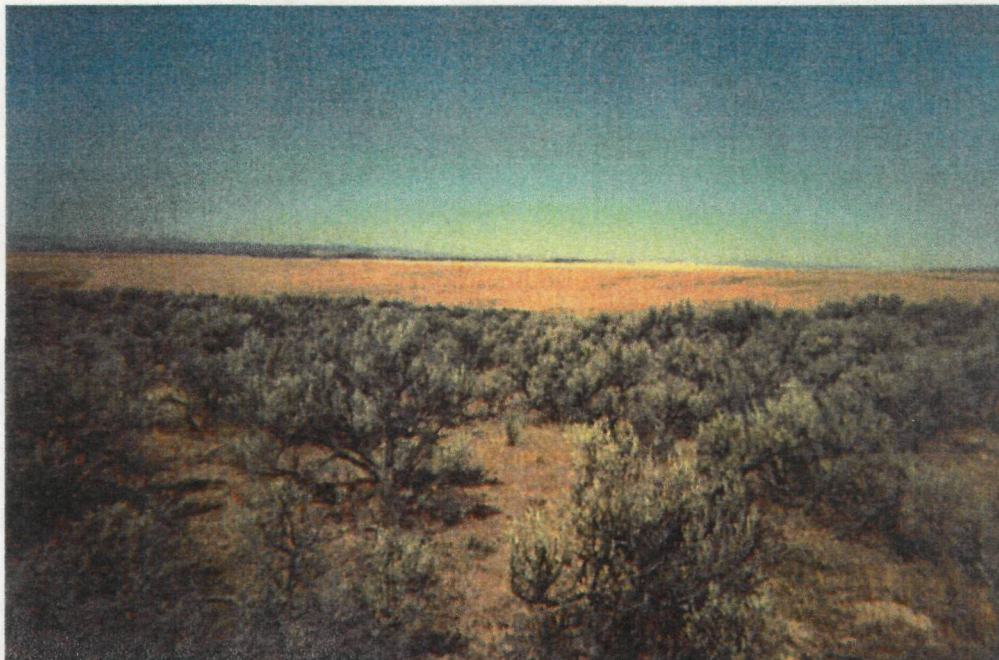


PHOTO #3

**General North View Taken in Section 5, T23N, R26E
(Near GPS N 47° 31' 33.3", W 119° 35' 06.1")**



PHOTO #4

**Pile of Bomb Debris Located Just off of Whitehall Road SE at
GPS N 47° 31' 22.9", W 119° 35' 53.1"**

APPENDIX J

HISTORICAL PHOTOGRAPHS

(Not Used)

APPENDIX K
HISTORICAL MAPS/DRAWINGS

APPENDIX K - HISTORICAL MAPS/DRAWINGS

K-1 Department of Defense

c. 1945 "Boundary of Vital Defense Area circa 1945. Record Group 18, Entry 1A, Box 288, Box 823, File 684. National Archives II, College Park, MD.

Appendix K-1

**Department of Defense
c. 1945**

**“Boundary of Vital Defense Area circa 1945.
Record Group 18, Entry 1A, Box 288,
Box 823, File 684.
National Archives II,
College Park, MD.**

APPENDIX L

**SITE SAFETY AND HEALTH PLAN/SITE
INSPECTION REPORT**

**APPENDIX L -- SITE SAFETY AND HEALTH PLAN/SITE INSPECTION
REPORT**

L-1 Site Safety and Health Plan

L-2 Site Inspection Report

APPENDIX L-1

Site Safety and Health Plan

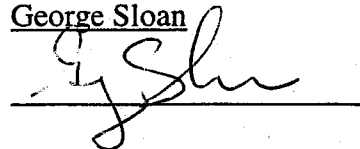
**SITE SAFETY AND HEALTH PLAN (SSHP)
for
EPHRATA PATTERN BOMBING RANGE # 4
SITE # F10WA057901**

The purpose of this site visit is to reconnoiter, document, and photograph areas Ephrata Pattern Bombing Range #4 suspected to be contaminated with unexploded ordnance and/or toxic chemical munitions.

PREPARED BY:	<u>Randy Fraser</u>
OFFICE	<u>USACE, CEMVS-ED-P</u>
ADDRESS	<u>1222 Spruce St. St. Louis, Mo</u>
PHONE	<u>(314) 331-8268</u>
DATE PREPARED	<u>07-31-02</u>

REVIEWED/APPROVED BY:

George Sloan



NOTE This SSHP is to be used only for non-intrusive site visits and must be approved by safety prior to the start of the field visit. All team members must read, and comply with the SSHP, and attend the safety briefings. The Site Safety and Health Officer (SSHO) shall ensure the Safety Briefing Checklist and the SSHP acceptance form (Appendix C) is filled out prior to the start of the site visit.

A. SITE DESCRIPTION AND PREVIOUS INVESTIGATIONS

1. Site Description

a. Size 2460 acres

b. Present Usage (check all that apply)

<input type="checkbox"/> Military	<input type="checkbox"/> Recreational	<input type="checkbox"/> Other (specify) _____
<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	_____
<input checked="" type="checkbox"/> Natural Area	<input type="checkbox"/> Industrial	_____
<input checked="" type="checkbox"/> Agricultural	<input type="checkbox"/> Landfill	

☐ Secured ☐ Active ☐ Unknown ☒ Unsecured ☐ Inactive

2. **Past Uses** The Ephrata Pattern Bombing Range #4 was established in late 1943 to provide a training facility for the U.S. Army 2nd Air Force assigned to the Ephrata Army Air Field.

3. **Surrounding Population** (check all that apply)

<input checked="" type="checkbox"/> Rural	<input type="checkbox"/> Residential	<input type="checkbox"/> Urban
<input type="checkbox"/> Commercial	<input type="checkbox"/> Industrial	<input type="checkbox"/> Other (specify) _____

4. **Ordinance/Explosives (OE) Potential** The INPR suggests Demolition, Incendiary, and Practice Bombs ranging from 100 pounds to 1000 pounds may have been dropped.

B. DESCRIPTION OF ON-SITE ACTIVITIES (check all that apply)

<input checked="" type="checkbox"/> Walk-through	<input checked="" type="checkbox"/> Drive-through	<input type="checkbox"/> Other (specify) _____
<input checked="" type="checkbox"/> On-Path	<input checked="" type="checkbox"/> On-road	
<input checked="" type="checkbox"/> Off-Path	<input checked="" type="checkbox"/> Off-road	

C. SITE PERSONNEL AND RESPONSIBILITIES

1. Responsibilities

a. **Project Manager** The Corps of Engineers Project Manager (PM) is overall responsible for the site visit. He will assign a Team Leader, (most situations will be the PM). The PM will ensure that the SSHP is completed. Coordinates and executes the site visit.

b. **Site Safety and Health Officer** Individual designated to conduct safety, enforce the SSHP, conduct safety briefings, and ensure that the team leader can safely fulfill his objectives. The SSHP will maintain the safety gear, and monitor on-site operations. The

SSHO is responsible for identifying, marking, and reporting any unexploded ordnance and explosives.

2. Team Members

<u>NAME</u>	<u>POSITION</u>	<u>ADDRESS</u>	<u>PHONE</u>
Gerald Schwalbe	PM/Team Leader	USACE, St. Louis, MO	(314) 331-8788
Randy Fraser	SSHO/UXO Spec	USACE, St. Louis, MO	(314) 331-8268
David Tajkowski	Historian	USACE, St. Louis, MO	(314) 331-8841

D. OVERALL HAZARD EVALUATION (check one)

☐ High ☐ Moderate ☒ Low ☐ Unknown

This assessment was developed using the Site Investigation Hazard Analysis and Risk Assessment Code Matrix.

E. GENERAL PRECAUTIONS Prior to the on-site visit, all team members are required to read this SSHP and sign the form acknowledging that they have read and will comply with it. In addition, the SSHO shall hold a brief tailgate meeting in which site specific topics regarding the days activities will be discussed. If unanticipated hazardous conditions arise, team members are to stop work, leave the immediate area and notify the SSHO. The buddy system will be enforced at all times.

F. STANDARD OPERATION SAFETY PROCEDURES, ENGINEERING CONTROLS AND WORK PRACTICES

- 1. Site Rules/Prohibitions** At any sign of unanticipated hazardous conditions, stop tasks, leave the immediate area and notify the SSHO. Smoking, eating and drinking allowed in designated areas only.
- 2. Material Handling Procedures** Do not handle.
- 3. Drum Handling Procedures** Do not handle.
- 4. Confined Space Entry** An area identified as a Permit Required Confined space will not be entered. All confined spaces shall be considered permit required confined spaces until the pre-entry procedures demonstrate otherwise. Confined spaces may be entered without a written permit or attendant provided the space is determined not to be a permit required confined space as specified in 29 CFR 1910.146.
- 5. Electrical Protection** Overhead power lines, downed electrical wires and buried cables pose a danger of shock and electrocution. In addition, buildings may contain exposed wiring that may hold a potential load. Workers should avoid contact with any and all exposed wire

and cables

6. Spill Containment N/A

7. Excavation Safety Do not enter trenches/excavations.

8. Illumination Site visits will be conducted during daylight hours only.

9. Sanitation Use existing sanitary facilities.

10. Buddy System Individuals will maintain constant contact with other personnel at all times. No one will work alone at any time during the site visit.

11. Engineering Controls N/A

12. Insects Wearing light colored clothing and tucking in the pant legs can reduce contact. In severely infested area it may be necessary to tape all openings. Apply repellents to both clothing and bare skin. Diethyltoluamide (DEET) is an active ingredient in many repellents, which are effective against ticks and other insects. Repellents containing DEET can be applied on exposed areas of skin and clothing. However, repellents containing permethrin should be used on only clothing. For more information on insect bites, refer to APPENDIX B of this SSHP.

13. Poisonous Vegetation Recognition and avoidance is the best protection. Cover all exposed skin. If it is known or suspected that an individual has been exposed, wash the effected area with soapy water.

14. Inclement Weather When there are warnings or indications of impending severe weather (heavy rains, strong winds, lightning, tornadoes, etc.), weather conditions shall be monitored and appropriate precautions taken to protect personnel and property from the effects of the severe weather.

15. Hot Weather In hot environments, cool drinking water shall be made available and workers shall be encouraged to frequently drink small amounts, e.g., one cup every 15 - 20 minutes; the water shall be kept reasonably cool. In those situations where heat stress may impact worker safety and health, work regimens shall be established. For more information on Heat Stress refer to APPENDIX A of this SSHP.

16. Cold Weather Cold injury (frost bite and hypothermia) and impaired ability to work are dangers at low temperatures and when the wind-chill factor is low. To guard against them; wear appropriate clothing; have warm shelter readily available; carefully schedule work and rest periods, and monitor workers' physical conditions.

17. Off-Road Driving Ensure all emergency equipment is available with the vehicle, i.e., tire changing equipment. Drivers shall familiarize themselves with the procedures for

engaging four-wheel drive systems before the need for added traction arises. Vehicles will not be driven into an environment that is unknown, such as deep water, or an unstable surface. Vehicles will not be driven into a suspected ordnance impact area.

18. Ordnance

a. General Information

- (1) The cardinal principle to be observed involving explosives, ammunition, severe fire hazards or toxic materials is to limit the exposure to a minimum number of personnel, for the minimum amount of time, to a minimum amount of hazardous material consistent with a safe and efficient operation.
- (2) The age or condition of an ordnance item does not decrease the effectiveness. Ordnance that has been exposed to the elements for extended periods of time become more sensitive to shock, movement, and friction, because the stability agent in the explosives may be degraded.
- (3) When chemical agents may be present, further precautions are necessary. If the munitions item has green markings leave the area immediately, since it may contain a chemical filler.
- (4) Consider ordnance that has been exposed to fire as extremely hazardous. Chemical and physical changes may have occurred to the contents which render it more sensitive than it was in its original state.

b. On-Site Instructions

- (1) DO NOT TOUCH or MOVE any ordnance items regardless of the markings or apparent condition.
- (2) DO NOT conduct a site visit during an electrical storm or an approaching electrical storm. If a storm approaches during the site visit leave the site immediately and seek shelter.
- (3) DO NOT use a radio or cellular phone in the vicinity of a suspect ordnance item.
- (4) DO NOT walk across an area where the ground cannot be seen.
- (5) DO NOT drive a vehicle into a suspected OE area; use clearly marked lanes.
- (6) DO NOT carry matches, cigarettes, lighters or other flame producing devices into an OE site.

(7) DO NOT rely on color code for positive identification of ordnance items or their contents.

(8) Approach ordnance items from the side; avoid approaching from the front or rear.

(9) Always assume ordnance items contain a live charge until it can be determined otherwise.

(10) Dead vegetation and animals may indicate potential chemical contamination. If a suspect area is encountered, personnel should leave the immediate area and evaluate the situation before continuing the site visit.

c. Specific Action Upon Locating Ordnance

(1) DO NOT touch, move or jar any ordnance item, regardless of its apparent condition.

(2) DO NOT be misled by markings on the ordnance item stating "practice", "dummy", or "inert". Practice munitions may contain an explosive charge used for spotting the point of impact. The item may also be mismarked.

(3) DO NOT roll the item over or scrape the item to read the markings.

(4) The location of any ordnance items found during site investigations should be clearly marked so it can be easily located and avoided.

(5) Reporting will be conducted in accordance with CEMVS-ED-P, Standard Operating procedure for Reporting Ordnance and Unexploded Ordnance (UXO), dated 19 January 1995.

19. Other (specify) _____

G. SITE CONTROL AND COMMUNICATIONS

1. **Site Map** Maintained on site by the PM or Safety Officer.

2. **Site Work Zones** N/A

3. **Buddy System** Individuals will maintain constant contact with other personnel at all times. No one will work alone at any time during the site visit.

4. **Communications**

a. **On-Site** Verbal communications will be used among team members.

b. **Off-Site** Communications shall be established on every site. Communications may be established by using a cellular phone or by public or private phone which may be readily accessible. (specify below)

☒ Cellular phone (314) 606-4960

☐ Public/private phone (location) _____

☐ Other _____

c. **Emergency Signals** In the case of small groups, a verbal signal for emergencies will suffice. An emergency signal for large groups (i.e. air horn, whistle) should be incorporated at the discretion of the SSHO. (specify below)

☒ Verbal

☐ Nonverbal (specify) _____

H. EMERGENCY RESPONSE Team members are to be alert to the dangers associated with the site at all times. If an unanticipated hazardous condition arises, stop work, evacuate the immediate area and notify the SSHO. A First Aid Kit and emergency eye wash (if applicable) will be located in the SSHO's field vehicle. If qualified persons (i.e. fire department, medical facility or physician) are not accessible within five minutes of the site at least two team members shall be qualified to administer first aid and CPR.

1. Emergency/Important Telephone Numbers

Emergency 911

Douglas County Sheriffs Department (509) 884-0941

Columbia Basin Hospital (509) 754-4631

53rd Ord Co (EOD) (509) 577-3376/6/7

3rd Ord Bn (EOD) (206) 967-1971/2/4

Huntsville Safety Office (205) 895-1582/1579

Huntsville Safety (after hours) (205) 895-1180

On-site cellular phone (314) 606-4960

St. Louis Corps of Engineers (314) 331-8036

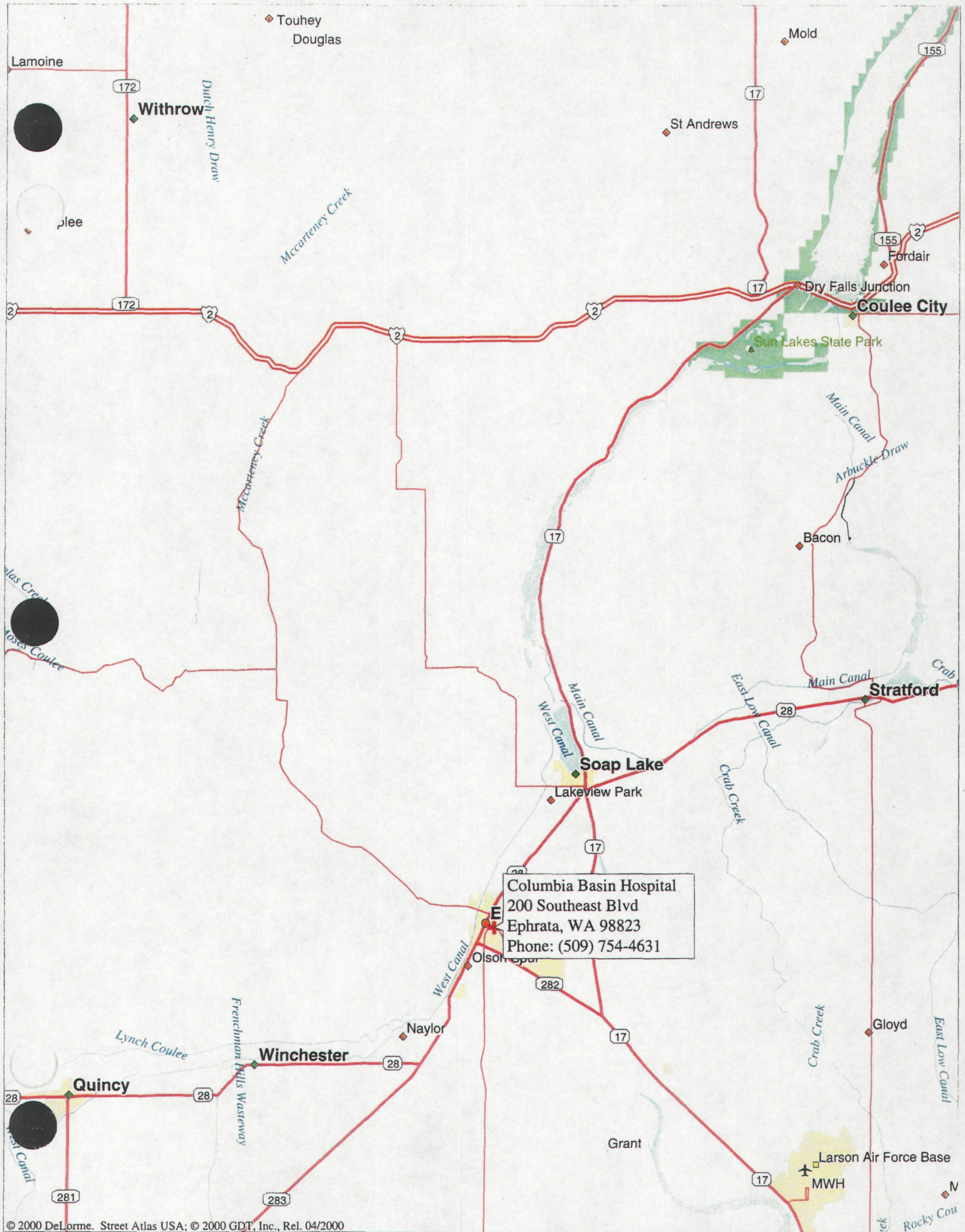
2. Hospital/Medical Facility Information

Name: Columbia Basin Hospital

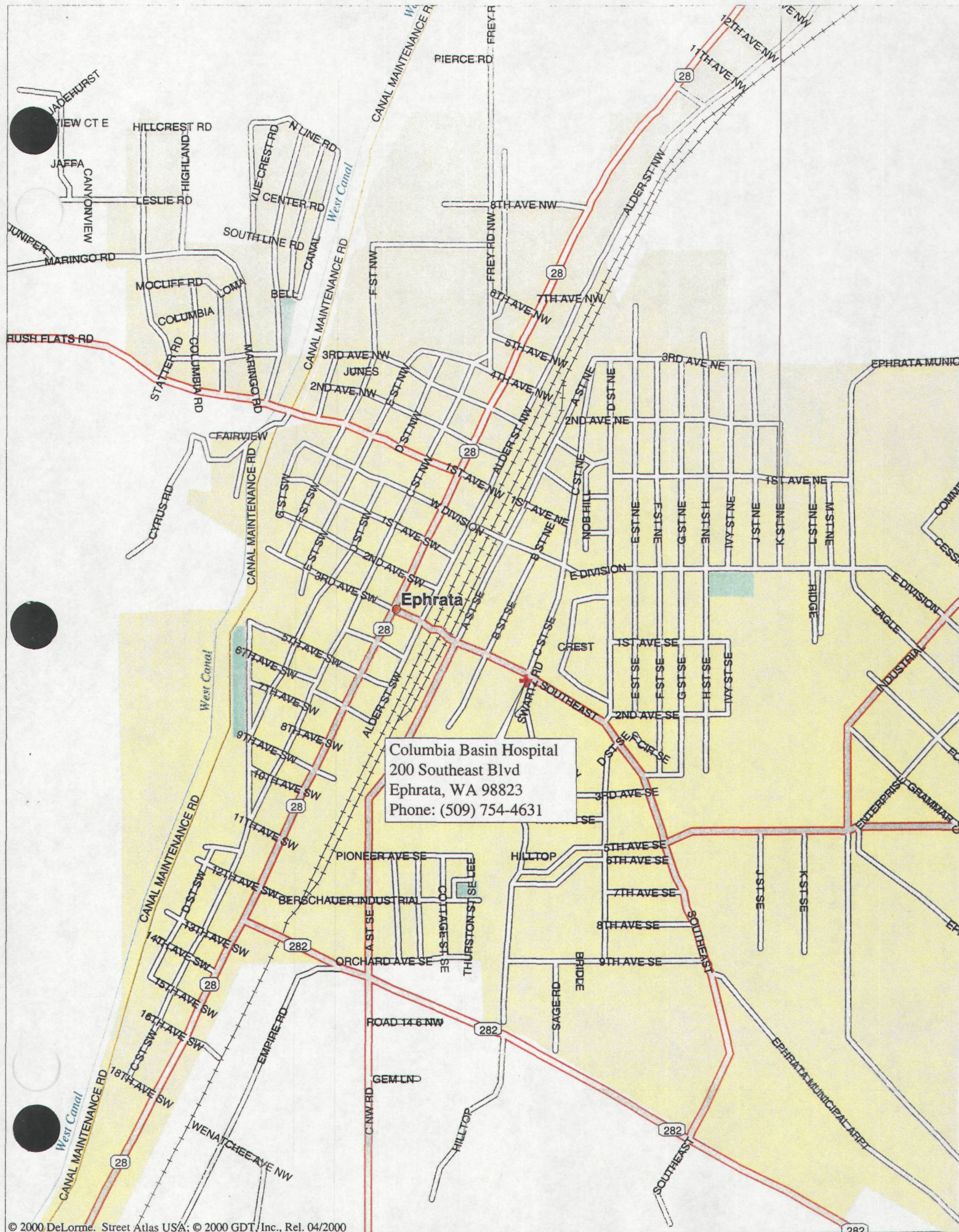
Address: 200 Southeast Blvd.
Ephrata, WA

Phone: (509) 754-4631

Route to Medical Facility: Refer to the Site Map on following pages



Columbia Basin Hospital
200 Southeast Blvd
Ephrata, WA 98823
Phone: (509) 754-4631



I. MONITORING EQUIPMENT AND PROCEDURES

1. Exposure Monitoring For non-intrusive on-site activities such as site visits, air monitoring is typically not required. However, if the site situation dictates the need for monitoring, complete the following information on a separate page and attach the page to the SSHP.

a. Monitoring Equipment To Be Utilized N/A

b. Equipment Calibration Results N/A

c. Action Levels N/A

2. Heat/ Cold Stress Monitoring

a. Heat Stress monitoring criteria published in Chapter 8 of the NIOSH/OSHA/USCG/EPA "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities" shall be followed.

b. Cold Stress monitoring shall be conducted in accordance with the most current published American Conference of Governmental Industrial Hygienists (ACGIH) cold stress standard.

J. PERSONAL PROTECTIVE EQUIPMENT Typically, for non-intrusive site visits, Level D is required. If a higher level of protection is to be used initially or as contingency, a brief discussion will be attached. At a minimum personnel shall wear clothing suitable for the weather and work condition. The minimum for fieldwork shall be short sleeved shirt, long trousers, and leather or other protective work shoes or boots. If a higher level of protection is to be used initially or as contingency, a brief discussion will be attached.

1. Footwear Footwear providing protection against puncture shall meet the applicable requirements as stated in EM 385-1-1, paragraph 05.A.07. All activities which personnel are potentially exposed to foot hazards will be identified and documented in a hazard analysis.

2. Hand Protection Persons involved in activities which subject the hands to injury (e.g., cuts, abrasions, punctures, burns) shall use leather gloves.

3. Head Protection Hardhats shall be worn when personnel are subject to potential head injury. The identification and analysis of head hazards will be documented in a hazard analysis.

4. Eye Protection Personnel will wear eye protection when activities present potential injuries to the eyes. All eye protection equipment shall meet the requirements as stated in EM.385-1-1, paragraph 05.B.

K. DECONTAMINATION PROCEDURES Decontamination procedures are not anticipated

for this site investigation. Team members are cautioned not to walk, kneel or sit on any surface with potential leaks, spills or contamination.

L. TRAINING All site personnel shall have completed the training required by EM 385-1-1 and 29 CFR 1910.120 (e). The U.S. Army Corps of Engineer (USACE) Project Manager shall ensure, and the SSHO shall verify, that all on-site personnel have completed appropriate training. Additionally, the SSHO shall inform personnel before entering, of any potential site-specific hazards and procedures.

M. MEDICAL SURVEILLANCE PROGRAM The USACE Project Manager shall ensure, and the SSHO shall verify, that all on-site personnel are on the Medical Surveillance Program meeting the requirements of 29 CFR 1910.120, and ANZI Z-88.2, as appropriate, depending on the PPE and site specific tasks.

<u>NAME</u>	<u>HAZWOPER (ref)</u>	<u>PROVIDER</u>	<u>MEDICAL DATE</u>
<u>Gerald Schwalbe</u>	<u>11-01</u>	<u>Corps of Engrs.</u>	<u>07-01</u>
<u>Randy Fraser</u>	<u>11-01</u>	<u>Corps of Engrs.</u>	<u>06-01</u>
<u>David Tajkowski</u>	<u>11-01</u>	<u>Corps of Engrs.</u>	<u>04-01</u>

N. LOGS, REPORTS AND RECORD KEEPING Site logs are maintained by the Project Manager and SSHO. This is to include historical data, personnel authorized to visit the site, all records, standard operating procedures, air monitoring logs and the SSHP.

O. GENERAL The number of personnel visiting the site shall be a limited to a minimum of two, maximum of eight. The more personnel on-site, greater the potential for an accident. The SSHO may modify this SSHP if site conditions warrant it and without risking the safety and health of the team members. This modification will be coordinated with the team members. The SSHO shall notify Corps of Engineers Safety Office in Huntsville, AL. of the change as the situation allows.

APPENDIX A

HEAT-RELATED INJURIES

Once the signals of a heat-related illness begin to appear, the victim's condition can quickly get worse. A heat related illness can result in death. If you see any of the signals of sudden illness, and the victim has been exposed to extremes of heat, suspect a heat-related illness.

People at risk for heat-related illness include those who work or exercise outdoors, elderly people, young children, and people with health problems. Also at risk are those who have had a heat-related illness in the past, those with medical conditions that cause poor blood circulation, and those who take medications to get rid of water from the body (diuretics).

People usually try to get out of extreme heat before they begin to feel ill. However, some people do not or can not. Those that work outdoors often keep working even after they begin to feel ill. Many times, they might not even recognize that they are in danger of becoming ill.

Heat-cramps, heat-exhaustion, and heat-stroke, are conditions caused by overexposure to heat. You can help prevent heat-stress emergencies by recognizing and properly treating symptoms. Below is a quick reference guide to heat-related emergencies:

HEAT CRAMPS Heat cramps are the least severe, and often are the first signals that the body is having trouble with the heat. *Symptoms* include: Muscle twitching; painful spasms in the legs, arms or abdomen.

WHAT TO DO:

- Have the individual rest in a cool place.
- Give cool water or a commercially available sports drink.
- lightly stretch the muscle and gently massage the area.

HEAT EXHAUSTION Heat exhaustion is a more severe condition than heat cramps. *Symptoms:* cool, moist, pale, or flushed skin, headache, nausea, dizziness, weakness, and exhaustion.

HEAT STROKE Heat stroke is the least common but most severe heat emergency. It most often occurs when people ignore the signals of heat exhaustion. Heat stroke develops when the body systems are overwhelmed by heat and begin to stop functioning. **Heat stroke is a serious medical emergency.** *Symptoms* include: red, hot, dry skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing.

WHAT TO DO: When you recognize a heat-related illness in its early stages, you can usually reverse it.

- Get the victim out of the heat.

- Loosen any tight clothing and apply cool, wet cloths, such as towels or sheets.
- If the victim is conscious, give cool water to drink. Do not let the conscious victim drink too quickly. Give about 1 glass (4 ounces) of water every 15 minutes.
- Let the victim rest in a comfortable position, and watch carefully for changes in his or her condition. The victim should not resume normal activities the same day.

▪ Refusing water, vomiting, and changes in consciousness mean that the victim's condition is getting worse. Call for an ambulance immediately if you have not already done so.

- If the victim vomits, stop giving fluids and position them on their side.
- Watch for signals of breathing problems.
- Keep the victim lying down and continue to cool the body any way you can. If you have ice packs or cold packs, place them on each of the victim's wrists and ankles, on the groin, in each armpit, and on the neck to cool the large blood vessels.

APPENDIX B

BITES AND STINGS

Scorpions, Bees and Spiders

Bee stings are painful, but rarely fatal. Some people, however have a severe allergic reaction to an insect sting. This allergic reaction may result in a breathing emergency. If someone is stung by an insect, remove the stinger. Scrape it away with from the skin with your fingernail or plastic card, such as a credit card, or use tweezers. If you use the tweezers, grasp the stinger, not the venom sac. Wash the site with soap and water. Cover it to keep it clean. Apply a cold pack to the area to reduce the pain and swelling. Watch the victim for signals of an allergic reaction.

Scorpions live in dry regions of the southwestern United States and Mexico. They live under rocks, logs, and the bark of certain trees and are most active at night. Only a few species of scorpions have a sting that can cause death.

Spiders; there are also only two spiders in the United States whose bite can make you seriously sick or be fatal. These are the black widow spider and the brown recluse. The black widow is black with a reddish hourglass shape on the underside of its body. The brown recluse is light brown with a darker brown, violin-shaped marking on the top of its body. Both spiders prefer dark, out of the way places. Often, the victim will not know that he or she has been bitten until he or she starts to feel ill or notices a bite mark or swelling.

Symptoms: include nausea and vomiting, difficulty breathing or swallowing, sweating and salivating much more than normal, severe pain in the sting or bite area, a mark indicating a possible bite or sting, and swelling of the area.

First Aid: if someone has been stung by a scorpion or bitten by a spider he or she thinks is a black widow or brown recluse, wash the wound, apply a cold pack to the site, and get medical help immediately.

Lyme Disease

Lyme Disease is an illness that people get from the bite of an infected tick. Lyme disease is affecting a growing number of people in the United States. Everyone should take precautions against it. Not all ticks carry Lyme disease. Lyme disease is spread mainly by a type of tick that commonly attaches itself to field mice and deer. It is sometimes called a deer tick. This tick is found around beaches and in wooded and grassy areas. Like all ticks, it attaches itself to any warm-blooded animal that brushes by. Deer ticks are very tiny and difficult to see. They are much smaller than the common dog tick or wood tick. They can be as small as a poppy seed or the head of a pin. Adult deer ticks are only as large as a grape seed.

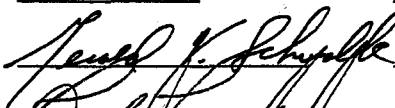
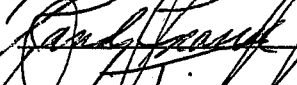
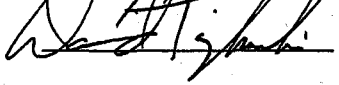
Symptoms: The first signal of infection may appear a few days or a few weeks after a tick bite. Typically, a rash starts as a small red area at the site of the bite. It may spread up to 7 inches across. In fair-skinned people the center is lighter in color and the outer edges are red and raised. This sometimes gives the rash a bull's-eye appearance. In dark skinned people the area may look black and blue, like a bruise.

Other symptoms include fever, headache, weakness, and joint and muscle pain similar to the pain of "flu". These symptoms might develop slowly and might not occur at the same time as a rash. In fact you can have Lyme disease without developing a rash.

First Aid: If you find a tick, remove it by pulling steadily and firmly. Grasp the tick with fine-tipped tweezers, as close to the skin as possible, and pull slowly. If you do not have tweezers, use glove, plastic wrap, or a piece of paper to protect you finger. If you use your bare fingers, wash your hands immediately. Do not try to burn a tick or use other home remedies, like coating the tick with Vaseline or nail polish or picking it with a pin. Once the tick is removed, wash the area with soap and water. If available, apply antiseptic or antibiotic ointment. If you can not remove the tick or parts of the tick stay in your skin, obtain medical care. If a rash or flu like symptoms develop, seek medical attention.

APPENDIX C
SSHP ACCEPTANCE FORM
ABBREVIATED SITE SAFETY AND HEALTH PLAN

I have read and agree to abide by the contents of the Site Safety and Health Plan.

<u>NAME</u>	<u>OFFICE</u>	<u>SIGNATURE</u>	<u>DATE</u>
<u>Gerald Schwalbe</u>	<u>CEMVS-ED-P</u>	<u></u>	<u>7/31/02</u>
<u>Randy Fraser</u>	<u>CEMVS-ED-P</u>	<u></u>	<u>7/31/02</u>
<u>David Tajkowski</u>	<u>CEMVS-ED-P</u>	<u></u>	<u>7/31/02</u>
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SITE SURVEY SAFETY BRIEFING

(Check subjects discussed) Date

8/13/02

SITE SPECIFIC INFORMATION

- ☒ Purpose of Visit
- ☒ Identify Key Site Personnel
- ☒ Site Description/Past Use
- ☒ Results of Previous studies
- ☒ Potential Site Hazards
- ☒ OE Safety Procedures
- ☒ Site SOP
- ☒ Site Control and Communications
- ☒ Emergency Response
- ☒ (X) Location of First aid Kit
- ☒ (X) Emergency Phone Numbers
- ☒ (X) Map to Facility
- ☒ PPE
- ☒ Weather Precautions
- ☒ (X) Cold/Heat
- ☒ (X) Severe Weather

Safety Briefing Attendance

All team members and any accompanying personnel will be briefed and sign this form.

Name (Print)

Organization

Signature

Gerald Schwalbe

CEMVS-ED-P

Randy Fraser

CEMVS-ED-P

David Tajkowski

CEMVS-ED-P

Gerald Schwalbe
Randy Fraser
David Tajkowski

APPENDIX L-2

Site Inspection Report

26 August 2002

MEMORANDUM FOR Michael E. Dace, Branch Chief, ED-P

SUBJECT: Trip Report, Local Research and Site Surveys: **Harvard Precision Bombing Range (PBR) No. 3** (a.k.a. Arnold Range PBR No. 2), DERP-FUDS OE Project No. B07NE005301; **Harvard PBR No. 5** (a.k.a. Ainsworth Air to Ground Gunnery Range), DERP-FUDS OE Project No. B07NE005401; **Grand Island PBR No. 4** (a.k.a. Valentine No. 4 and the Ainsworth Bombing Range), DERP-FUDS OE Project No. B07NE004800; and **Ephrata Pattern Bombing Range No. 4**, DERP-FUDS OE Project No. F10WA057901.

From 5 thru 9 August 2002, George Sloan, David Tajkowski, and Jerry Schwalbe conducted both the site surveys and local research for three subject **Nebraska PBRs**. The team departed from St. Louis on Monday morning, 5 August, and arrived late in the afternoon at North Platte, Nebraska, where they remained overnight before performing the site investigations over the next three days. This team returned on 9 August to St. Louis, arriving in the afternoon. The following week, Randy Fraser replaced George as team Safety Officer, joining David and Jerry for the site investigation of **Ephrata Pattern Bombing Range No. 4**, Washington. This team departed from St. Louis on 12 August and arrived in Ephrata, Washington, late in the afternoon. On Tuesday August 13, this team performed the site investigation, returning to St. Louis on 14 August. The following paragraphs describe the fieldwork and local research activities performed for the four assigned FY02 FUDS. Latitude (LAT) and Longitude (LON) readings taken in the field on the FUDS were obtained with a Garmin GPS using DATUM WGS-84.

2. Site Survey **Harvard PBR No. 3**:

On Tuesday 6 August 2002 at about 8:30 am, the site investigation team of George Sloan, David Tajkowski, and Jerry Schwalbe met with Mr. David Chesley, property owner, at his residence (Phone (308) 836-2658). Mr. Chesley lives off the county road between Highway 92 (about one mile east of Arnold) and Calloway, Nebraska. He manages and operates the farming operations of the Chesley Family Trust lands on which is located one former target of the precision bombing range. The 2,560-acre former **Harvard PBR No. 3** is approximately 23 miles southwest of Broken Bow, and six (6) miles southeast of Arnold in Custer County, Nebraska.

After discussing the purpose for our visit with Mr. Chesley, he personally assisted the team by escorting them to the area surrounding the target center located in Section 20, Township 16 North (T 16 N), Range 24 West (R 24 W). (The overall former precision bombing range property included all of Sections 20 and 29, the east half of Sections 19 and 30, and the west half of Sections 21 and 28, T16N, R24W.) The general target area was walked by the team with a number of small pieces of 100 lb M38-series practice bombs observed on the ground surface. Generally, the land searched was in pasture and used for grazing livestock. Except for the few practice bomb parts, the range was relatively free of evidence of the WW II era precision bombing training. Photos were taken of the small amount of practice bomb debris and a concrete foundation for the former generator (LAT 41° 20' 34.1" N, LON 100° 05' 43.2" W) discovered in the target area, which is centered at approximately LAT 41° 20.5' N, LON 100° 05.67' W. After completion of the site investigation, the team drove to Valentine, NE, where they remained overnight before continuing with site investigations the following day.

Other than conducting interviews with the property owners, additional local research was not conducted specifically for **Harvard PBR No. 3**. Staff of the St. Louis District thru telephone conversations confirmed previous interviews conducted primarily during the preparation of the INPR by the Omaha District, U.S. Army Corps of Engineers. Phone discussions were with the property owners, including with Mr. David Chesley.

3. Site Survey **Harvard PBR No. 5**:

Early on Wednesday morning, 7 August 2002, the site investigation team continued by performing the site survey of **Harvard PBR No. 5**, which is located in the Samuel R. McKelvie National Forest. Access to the property was with the assistance of Mr. Buster Hand (Phone (402) 823-4154; Cell (402) 389-0500, Forest Service Range Technician. To reach the target the team drove southwest from the City of Valentine on State Route 97 until reaching the Merritt Dam (Merritt State Recreational Area). Here, they crossed the dam structure and proceeded to the northwest along County Road S16B. Since the team was running a little late for our appointment at the National Forest Field Headquarters, a phone call was placed to Mr. Hand. He suggested that he meet the team along County Road S16B at the intersection of the rural road or jeep trail leading to the known bombing target location. The suggested meeting point is centrally located in the overall FUDS eligible property. Photographs taken at this point show the general terrain (approximate LAT 42° 39' 49.9" N, LON 100° 58' 25.5" W) for ASR use. The National Forest actually has few trees and is in reality a preservation of the vegetation common to the Sand Hills of Nebraska. The team then proceeded to drive southward along jeep roads and over natural terrain until reaching

Sections 29 and 32, T 31 N, R 31 W, the general location of the one identified target area on the 8,735-acre air-to-ground gunnery range and/or precision bombing range. The team walked over about a one-mile square area and discovered evidence of the past use of M38-series 100 pound practice bombs. Photographs and GPS readings were taken of the piece of practice bomb found at LAT 42° 37' 31.2" N, LON 100° 59' 15.8" W. Forest Service employees and ranchers had previously indicated that .50 caliber air-to-ground gunnery practice had occurred on **Harvard PBR No. 5**.

Other than interviewing the Forest Service employees, additional local research was not conducted specifically for **Harvard PBR No. 5**. Staff of the St. Louis District thru telephone conversations again verified the interviews and other local research conducted during the preparation of the INPR by the Omaha District, U.S. Army Corps of Engineers.

4. Site Survey Grand Island PBR No. 4

On Thursday morning, 8 August 2002, the site investigation team continued with Nebraska PBR site investigations by driving to the site of **Grand Island PBR No. 4**, which is located in the Valentine National Wildlife Refuge. The team drove south from the town of Valentine about 25 miles along U.S. Highway 83, turning to the right (west) on S16B, and then proceeded to the refuge operations/maintenance office. This office is located in the northwest corner of the refuge near Watts and Hackberry Lakes. Here the team met with Mark Lindvall (Phone: (402) 376 1889) and another U.S. Fish and Wildlife Service employee, to coordinate the site investigation and obtain access guidance. David Tajkowski had arranged for the meeting with Mr. Lindvall. Mr. Lindvall previously reported that over the years, bombshell fragments had been found on, and for the most part removed from, the land by refuge staff. At the meeting, the refuge staff provided directions to an east/west direction refuge range road, along which the team could drive to a point about one mile north of the former bombing target center. Here, the team could park our four wheel drive vehicle and hike to the target area, which once existed on high ground northeast of Dads Lake. The refuge staff did not express a desire to accompany the team. One item of interest was a statement by Mr. Lindvall, that the EOD once responded to an incident when a "live bomb" was discovered embedded adjacent to a refuge jeep road. The OE was detonated by the EOD, but the type/size was not known to the refuge staff. It was indicated the munition may have been a high explosive (HE), rather than a practice device. The refuge staff provided a copy of the *Summary Valentine Wilderness Study*, prepared by the U. S. Department of the Interior, Bureau of Sport Fisheries and Wildlife and a pamphlet on hunting and Fishing Regulations that contained a general map of the Valentine National Wildlife Refuge.

The team next drove to the designated location where they could park their vehicle (LAT 42° 31' 23.6" N, LON 100° 36' 0.80" W) near School Lake. They hiked to the south first across a marsh (dry due to drought), and then over sandhills at a higher elevation, towards the bombing target located in Sections 3, 4, 9, and 10, T 29 N, R 28 W. The site has few trees and the vegetation is common of the Sand Hills area of Nebraska. The team located a piece of a 100 lb practice bomb at approximate LAT 42° 30' 42.5" N, LON 100° 36' 20.8" W. At about LAT 42° 30' 32.9" N, LON 100° 36' 17.8" W, the team crossed through a section fence and continued further south into the section believed to once have had a target. Wood, perhaps from an old observation target was photographed at LAT 42° 30' 17.1" N, LON 100° 36' 18.5" W. Somewhat further southeast of this location practice bomb debris was located and photographed at LAT 42° 30' 12.8" N, LON 100° 36' 12.3" W and at LAT 42° 30' 17.4" N, LON 100° 35' 52.9" W. From this position, the team proceeded back via a different route to their vehicle. The return route walked was generally further east of the route followed when walking in to the target site. The former bombing target is relatively free of any surface evidence (practice bomb debris) of the past use by the DoD. The team arrived back at the vehicle early in the afternoon, completing the site survey. They drove back to North Platte, NE, where they remained overnight, before returning to St. Louis on Friday.

5. Site Survey Ephrata Pattern Bombing Range No. 4:

On Tuesday morning, 13 August 2002, the site survey team drove north from the town of Ephrata, Washington, along State Highway 28 until reaching Lakeview Park (just south of Soap Lake). Here, they took Sheep Canyon Road to the northwest until reaching an intersection with a County Road (Whitehall Road SE). Turning north the team drove approximately 8-1/2 miles north to the center of the former **Ephrata Pattern Bombing Range No. 4**. The site is entirely in Douglas County and consists of Sections 5 and 6, T 23 N, R 26 E, and Sections 31 and 32, T 24 N, R 26 E. Mr. David Tajkowski had arranged with Mr. Paul Malone, landowner and lessee of State of Washington lands (Phone (509) 632-5582), and Mr. Westly Roberts, landowner (Phone (509) 632-5430), to access the site and observe present conditions.

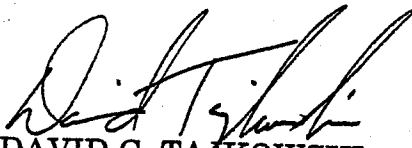
The team first proceeded to drive the local section roads along the FUDS boundary (includes Whitehall Road), observing the land usage is primarily agricultural (crop growing). Certain land tracts are preserved as natural high desert. Whitehall Road divides Sections 5 and 6, T 23 N, R 26 E, and then at the intersection of the four sections (bombing target center), turns 90° to the west and forms the boundary between Section 6, T 23 N, R 26 E, and

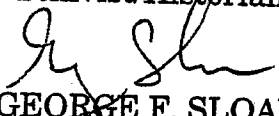
Section 31, T 24 N, R 26 E. The team observed a small dump located in the far northeast corner of the target area. There was no visual evidence of any old practice bomb parts, or other DoD generated debris at this location. The team then parked their vehicle on the eastern boundary of Section 5, T 23 N, R 26 E, which was observed to be mostly preserved in natural foliage common to high desserts. The team walked over much of Section 5, and did locate (near GPS N 47° 31' 16.7", W 119° 35' 6.1", and GPS N 47° 31' 33.5", W 119° 35' 2.0") and photograph evidence of the past use as a precision bombing range (M38-series 100 pound practice bomb parts). After finishing the walk over Section 5, the team returned to our vehicle and continued to search for the target center. The target center is believed to have been positioned just south of the intersection of the four sections of land acquired by DoD for the pattern bombing range. It was also understood that the landowners previously collected practice bomb debris and piled these items up near the old target center. At LAT 47° 31' 21.6" N, LON 119° 35' 52.8" W, and at LAT 47° 31' 23.5" N, LON 119° 35' 49.1" W adjacent to Whitehall Road a pile of bomb debris was discovered by the team. A walk about the general area confirmed that this positioned was likely near the original target circle.


Shortly after walking the site and photographing bomb debris, the team was preparing to depart, when landowner Paul Malone approach the team in his vehicle. He introduced himself, pointed out the general area where he and his employees had collected much of the bomb debris, and then asked if we saw any of the "rockets". After making this statement, he suggested that the team follow him to his residence where he would show us an example of this device. Safety officer Randy Fraser identified Mr. Malone's Rocket as a miniature practice bomb from the Bomb, Practice, AN-Mk 5, AN-Mk 23, AN-Mk 43 series.

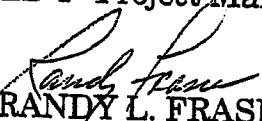
At the conclusion of the visit with Mr. Malone, the team drove to Spokane, Washington, remained overnight, and then took a return flight to St. Louis on Wednesday.

Other than conducting interviews with the Mr. Malone and other property owners, the only additional local research conducted specifically for **Ephrata Pattern Bombing Range No. 4** was a brief stop at the Grant County Museum. Here, David Tajkowski was able to confirm that all records and/or documents in the Museums' possession were previously collected during the preparation of the former Ephrata AAF ASR.


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APPENDIX M

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APPENDIX M - REPORT DISTRIBUTION LIST

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